

AMERICAN FORESTS



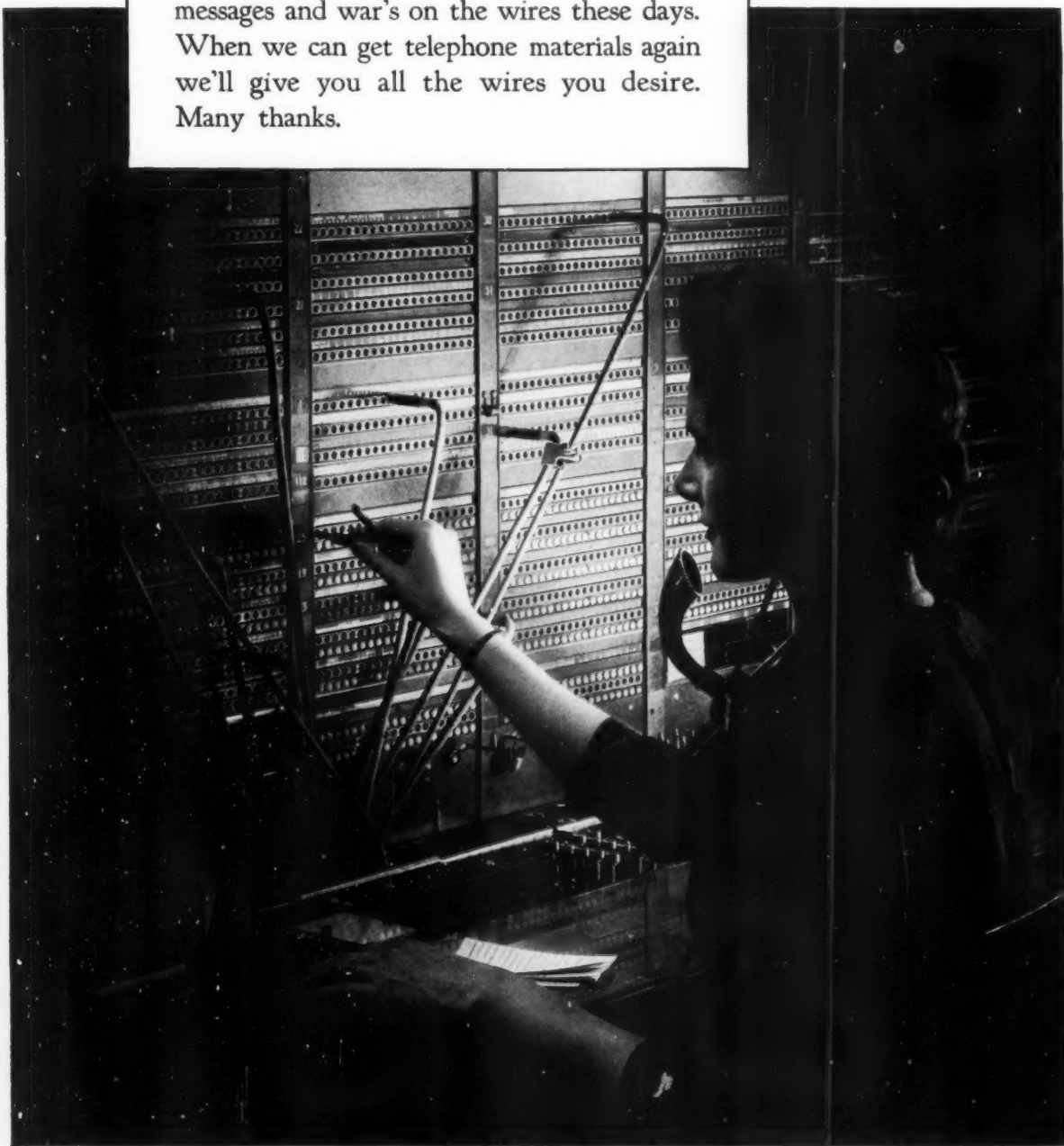
JANUARY 1943

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AMERICAN FORESTS

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Editor
OVID BUTLER

Associate Editors
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American Forests

Published monthly by

THE
AMERICAN FORESTRY
ASSOCIATION

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The American Forestry Association, founded in 1875, is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation.

Its educational activities seek to bring about a better appreciation and handling of these resources, whether publicly or privately owned, that they may contribute permanently to the welfare of the nation and its people.

In addition to publication of its magazine—AMERICAN FORESTS—designed to keep before the people of the country important conservation questions and issues, the Association carries on educational work in various fields including forest fire prevention, reforestation, protection of wildlife, prevention of soil erosion, preservation of wilderness areas, establishment of national forests and parks, advancement of forestry by private endeavor, the teaching of conservation in schools and the promotion of research in timber growing and forest utilization.

The Association is independent and non-commercial, and has no connection with any federal or state governments. Its resources and income are devoted to the advancement of conservation in the interests of public welfare, and all citizens are welcomed to membership.

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The Forest Exchange

CUTTING THEIR OWN WOOD

SIR: The fuel situation here is very serious, especially from the standpoint of oil. We have the state well organized for the cutting of wood, but there are no experienced choppers available. For the most part, those that are chopping are making more money with less effort by cutting sawlogs, and many others have gone into high paying war industries. Our plan now is to get individuals to rustle their own, and this is working out fairly well in some sections. In the aggregate we are hoping to get a million cords cut this winter.—*Harris A. Reynolds*, Secretary, Massachusetts Forest and Park Association, Boston, Massachusetts.

ANY DOGWOOD LOGS?

SIR: We are very interested to see, on page 510 of the November 1942 issue of *AMERICAN FORESTS*, the box calling attention to the need for dogwood logs.

No doubt you will receive some inquiries from timber owners unaware of the market for dogwood logs, asking where these can be sold.

We originated the dogwood business for the manufacture of shuttles in 1868 and have log cutters and mills covering most of the dogwood territory. We would, therefore, appreciate your advising any inquirers to write us, and we will be glad to give them complete information as to the best methods of cutting dogwood logs and our nearest utilization point.

May we state that we are enjoying your magazine very much.—*Joseph J. Cox*, High Point, North Carolina.

BEAUTIFUL HOLLY

SIR: Today Mrs. Ulmer and I made our weekly visit to our Indian museum and old holly tree. To me, this old tree is one of the glories of nature. It has a trunk circumference of seventy-two inches about three feet above the ground, is at least sixty feet high, and has a spread of sixty-five feet. With a glow of beautiful red as the sun beat down upon its glossy green leaves, it is the most beautiful tree I have ever seen.

Two years ago the tree had only a few berries, so few one could easily have counted them. Some ten years ago it had been covered with berries. The reason for not bearing fruit was that all native holly trees had been removed from the surrounding country.

We planted a male specimen about 100 feet from the tree with the result as described above. I wish you could see

the tree as it looks today. A picture, in color, would be too beautiful for description.—*H. C. Ulmer*, York, Pennsylvania.

NOTE FOR MEATLESS TUESDAY

SIR: Having read in one of my tree books of the usage made of hickory nuts by the Indians of cracking the nuts, and boiling the meat out with a mixture of meal and making the whole into a cake, I today tried an experiment. With my cook doing the work, we crushed the halves of fifteen pecans in a mortar, and then adding this to a cup of meal, with the usual salt, baking powder, milk and just a small portion of shortening, fried the cakes on both sides in a cast iron skillet, with a minimum of vegetable oil in the pan.

The result was a delicious morsel, being very tasty and incidentally is very high in caloric value and would fit well into a meatless Tuesday diet.—*W. T. McCandlish*, Petersburg, Virginia.

A SOLDIER REPORTS

SIR: Just as soon as I am finished reading *AMERICAN FORESTS* I pass it on to another in my barracks who is just as interested in its material as I am.

Here, one can readily see what part lumber is playing in this war because of the number of buildings that are of wooden construction. Our barracks are entirely of wood and are very easily kept clean.

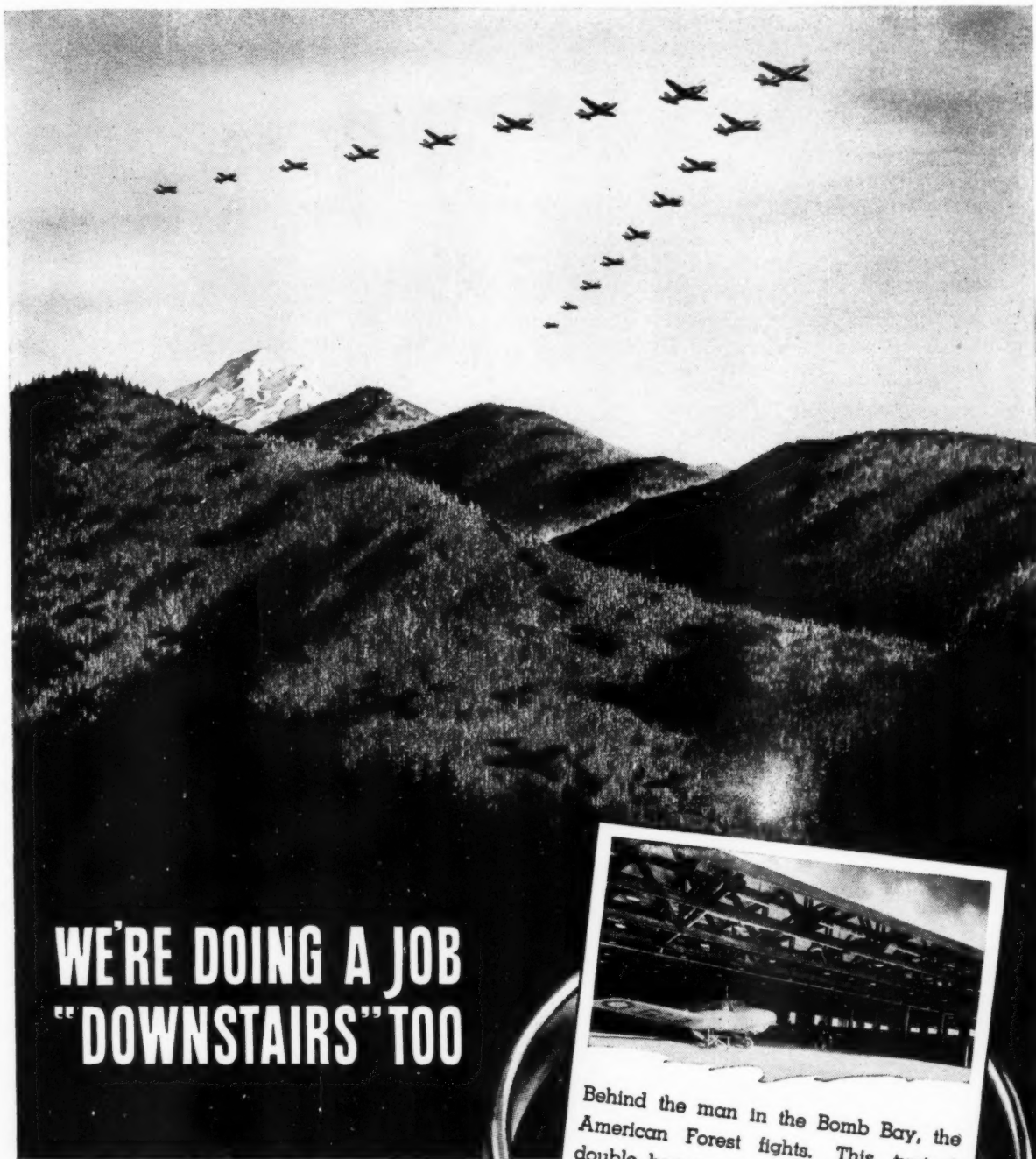
I enjoyed reading the poem "The Forest Patriots" in the November issue. It was written during the first World War, but the idea is certainly good for World War II.—*Corporal Thomas P. Meehan*, Aberdeen, Maryland.

GOOD FORESTRY PRACTICE

SIR: I have found *AMERICAN FORESTS* very helpful in my present position as head of the Lumber Branch of the War Production Board for the Nashville District, and compliment you on the continued excellence of your publication.

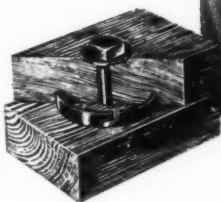
My job is to speed the forest products to the war effort but I am attempting to show to the lumber producers that it is not necessary to overcut and to encourage them to use good forestry practices while supplying the nation's needs in wood.

I have always been a conservationist but have found many things in *AMERICAN FORESTS* which have impressed the need for conservation on me very forcibly.—*E. M. McNish*, Nashville, Tennessee.



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THE EDITOR'S LOG

YOUR MAGAZINE

AMERICAN FORESTS enters 1943—its forty-sixth year of publication—with the stamp of war upon its pages. The new type face and make-up which the reader will have before him with this issue represent an effort by the staff to meet recommendations of the War Production Board for the conservation of labor, metal and other vital material employed in the publishing and printing industry. The new type is Bodoni Book, selected because of its readability. The change to narrow page margins and three columns of type means conservation of paper and saving of labor in the print shops where manpower conditions are becoming increasingly difficult. Adoption of a policy of using bleed type illustrations only in rare cases will help save both metal and labor.

In meeting war conditions the editors have striven to make AMERICAN FORESTS not only more readable but more informative. It is hoped that the reader will find it so. It is hoped, also, that if magazines are a few days late in delivery it will be held in mind that war conditions have brought about a shortage of labor in the printing industry and that the movement of second-class mail is often delayed because of military needs. These are conditions beyond our control.

* * * * *

FEDERAL CONTROL

War or no war, Mr. Earle H. Clapp, Acting Chief of the U. S. Forest Service, believes that the federal government should exercise control over the cutting of all privately owned forests of the country. If this control cannot be obtained through the ordinary democratic processes of legislation, he favors achieving it by an executive decree to be issued by the President under the latter's wartime powers.

Mr. Clapp's hard and fast policy on this long standing issue was made clear in a three hour discussion which the Directors of The American Forestry Association had with him on November 19th. In the hope of finding ways and means whereby a greater degree of wartime accord might be brought about in the forest field, the Directors had invited both Secretary Wickard and Mr. Clapp to

join them at their November meeting. Secretary Wickard found it impossible to do so. Mr. Clapp accepted and gave generously of his time.

The discussion unfortunately failed to find ground upon which to resolve for the duration of the war differences which under tension of the national emergency are undermining the working relationship of forestry forces in meeting war demands for wood. The best that can be said for the discussion is that it was helpful in clarifying certain aspects of the position of the Forest Service as it relates to federal controls—the trouble source of the whole unhappy situation.

THE SERVICE PATTERN

It has been widely believed that the Forest Service is behind the Bankhead bill put forward two years ago by the Joint Congressional Committee on Forestry. Mr. Clapp stated that this is not a Forest Service bill and has not been approved by him. He said that the form of federal regulation recommended by the Service is along the lines proposed to the Joint Congressional Committee on Forestry at the time Committee hearings were held. These proposals, he emphasized, would give the states opportunity to develop their own forms of control under standards of forest practices set up by the federal government and with the government paying half the cost of the undertaking. In the event the states fail to act within reasonable time, the federal government would exercise control directly. Mr. Clapp indicated that the Pierce bill now pending more nearly incorporates the form of federal regulation for which the Service stands.

AN ELUSIVE ORDER

Asked if it is true, as reported in Washington, that the Forest Service had recently proposed an executive order to put into effect at once federal control of all forest cutting and that such an order is before the President for consideration, Mr. Clapp said that the Forest Service had not projected such an order into the picture but that it had been raised outside the Service where groups are becoming more and more insistent that the federal government take over control of forest harvesting. He ad-

mitted, however, that the executive order has his approval although he would prefer to accomplish regulatory control through legislation because of the permanent public policy which is involved.

Discussion then turned to the origin of the executive order and the groups seeking to have the President handle it as a war measure. Mr. Clapp said that he was not at liberty to divulge names but he referred to an especially active group in Wisconsin. This group, he said, had failed to achieve state regulation and becoming alarmed over the war demands for Wisconsin's second growth timber and possibilities of its early devastation are insisting upon federal action. Further than this the source of the executive order, its direct promoters and its status were not elaborated upon.

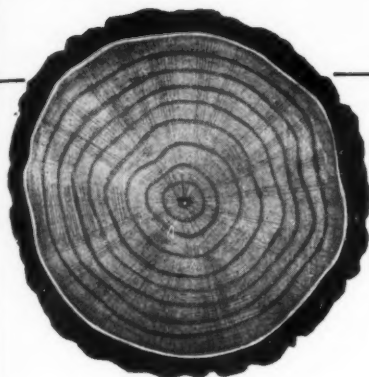
AS A WAR MEASURE

Mr. Clapp was then asked how he thought the imposition of federal control would affect the present shortage of lumber for war requirements and the urgent need of increasing production. He replied that "it would not produce less timber for the conduct of the war" and at the same time it will save much growing wood for post-war use. If the proposed executive order will not produce more lumber, how, it was asked, can it be justified as a war measure? The response was that an enormous civilian demand for timber is piling up both in this country and in cities of Europe. The effect upon the manpower situation of the federal government embarking upon a nationwide control of forest cuttings, Mr. Clapp did not think would be serious. He estimated that the regulatory job would call for about six hundred men.

Here question was raised as to how federal regulation would affect the states from the standpoint of protection against forest fires and other destructive hazards. Mr. Clapp said that he favored the government sponsoring an insurance system of its own, although he admitted that such a plan is not a part of the regulation program.

REGULATION OR NOTHING

Mr. Clapp then was asked to clarify his position in respect to sup-



port by the Forest Service of the McNary bill, sponsored by the Association of State Foresters to authorize Congress to increase appropriations for cooperative forest fire prevention by the states, federal government and private timber owners. Mr. Clapp said the record was clear in showing his endorsement of more adequate funds for fire protection "as one measure" and that the same is true of insect and disease control, but as "another measure he would include public control." Asked if he meant that he would not support the McNary bill unless it is made part of a federal control program, he at first preferred not to commit himself saying he felt that in simply passing legislation providing for more adequate fire protection funds, the public would be throwing away a "good trading point." Later in answer to the specific question "if the McNary bill comes up for hearing without a regulatory feature, what will be the attitude of the Forest Service?" Mr. Clapp indicated he would feel compelled to oppose it "provided he is a free agent."

The Directors wanted to know if that represented his position in respect to other individual or piecemeal legislation that is pending or might later be desirable to round out a national program of forestry. Mr. Clapp said there might be possible exceptions in cases of bills which carry forest practice requirements, leaving the clear implication that the policy of the Forest Service now is to withhold its support of any forestry legislation that does not include federal regulatory powers in one form or another.

* * * * *

TRUMAN COMMITTEE

The Truman War Investigating Committee of the U. S. Senate extended its inquiry into the lumber

situation November 24 and 25. Called before it in Washington were representatives of the principal lumber producing regions of the country and of the Forest Service and the lumber division of the War Production Board. While there was a shortage of some six billion feet in lumber production during 1942, the Committee was told, this deficit was made up by drawing upon accumulated lumber inventories so that at the time of the hearing all essential demands had been met.

The industry representatives agreed that the principal bottlenecks now and for the future in lumber production are shortage and drift of labor and uncertainty as to the availability of operating equipment. If these handicaps can be overcome, industry should be able to meet foreseeable war requirements the coming year. These requirements were estimated by the War Production Board and the Forest Service at thirty-one to thirty-two billion feet, or approximately eight billion feet less than 1942 requirements.

There was disagreement, however, between the Forest Service and the War Production Board officials as to the amount of lumber it will be possible for the country to produce during 1943. The former placed it at twenty-eight to twenty-nine billion feet, the latter at thirty-one to thirty-two billion feet. Mr. Arthur Upson of WPB told the Committee: "If we can maintain our present levels of manpower, tractors, trucks, tires, equipment, repair parts and operating supplies, have no worse weather than we had the past year, we ought to repeat the 1942 production of upwards of thirty-two billion board feet."

FOREST PRODUCTS PLAN

During the course of the hearing the proposal of the Department of Agriculture (see Editor's Log November issue) to set up in the Forest Service a Forest Products Service to help increase lumber production came in for an airing. That proposal calls for allocation of \$100,000,000 from the Commodity Credit Corporation and the Committee wanted to know why there has been a five months' delay

in acting upon it one way or another. Mr. Ben Alexander, lumber coordinator of WPB, outlined step by step the negotiations which had attended its consideration by representatives of the Board and the Forest Service in an effort to reach agreement as to the form the plan should take. He told the Committee that he himself had disapproved the plan when it had originally come to him but that the War Production Board had overruled him.

His disapproval, he stated, was based on the belief that: (1) it will not produce the kind of lumber needed for the war; (2) it will not be the most efficient utilization of labor and lumber conversion facilities; (3) its provisions for cutting practices in the woods mean logging larger areas which in turn means "more roads, more labor, more tractors, more tires, more gasoline," and (4) the government financing feature of the plan is unnecessary because lack of financing is not holding back production.

Mr. Alexander's testimony brought out that after many conferences extending throughout the summer, Judge Roseman, representing the President, had effected a compromise between the two agencies and that the compromised plan, signed by Mr. Donald Nelson and Secretary Wickard, had gone to the President a few days before the hearings and was on the President's desk for consideration.

An interesting sidelight to Mr. Alexander's recital of these negotiations was his reference to the fact that on November 2 the Board received unconfirmed information that a proposed executive order "submitted by the Secretary of Agriculture to the President," calling for federal regulation of cutting on private lands, had been coupled to the plan. In the compromise finally reached, he said he understood the executive order feature had been dropped.

As this issue goes to press, no final action on the plan has been reported from the White House.

Orin Foster



U. S. Forest Service

No native nut tree was more highly prized by early Americans than the pecan. The two great trees above were planted by George Washington at Mount Vernon. Today, the pecan, often grown in large orchards, as shown at right, is the country's most valuable native nut producer



AMERICAN FORESTS

A GROWING AMERICAN RESOURCE

With Imports of Tree Nuts Cut Off by War, an Important Crop Comes of Age

By WILLOUGHBY P. FILER

Despite curtailment of imports due to war conditions, there is no need for Americans to go without their customary bowls of nuts on the holiday table this season, or for children to reach into a nutless Christmas stocking. They may not find cashews from India, pistachio nuts from Syria, or macadamias from Hawaii or Australia, but there will be plenty of pecans, almonds, filberts, Persian (English) walnuts, peanuts, and other delicious nuts grown right here in the United States.

The happy fact is that American nut production, even before the war, had increased to the point where for a number of years considerable quantities, mostly pecans and Persian walnuts, were exported. Indeed, it is no state secret that government subsidies, in the case of the walnut, have been a helpful factor in the export movement to prevent serious overproduction. With this trend, nut importations naturally declined. During the five-year period from 1930 to 1935, Americans consumed only half as many imported nuts as they did in a like period from 1920 to 1925. Today, with importations practically at a standstill, it is logical to assume that eventually all the nuts consumed in this country will be grown on trees rooted in American soil, with the possible exception of cashews, Brazilnuts and macadamias.

Raising Persian walnuts is already a \$10,000,000 a year industry in California and the Pacific Northwest. The almond crop in California is valued at \$4,000,000, while Oregon and Washington have a \$1,000,000 filbert industry. In the South, pecan trees produce millions of pounds of nuts and rank as the country's most valuable native nut tree. Worth twelve cents a pound in 1939, pecans today are bringing twenty-five cents with big buyers searching the southern states for million-pound orders. The peanut, though not a tree product, made so much money for the citizens of Enterprise, Alabama, that they erected a \$3,000 monument to the boll weevil, which had destroyed their cotton crops and started them raising peanuts.

No one knows how many millions of pounds of native black walnuts, butternuts, hickory nuts, or pinons are produced yearly on wild trees. Unfortunately, much of this crop is lost because



Bureau of Plant Industry

Pecans

of an indifferent annual harvest. Nevertheless, it is a significant fact that the compact area from New England to Nebraska and from Wisconsin to the southern Appalachians boasts more native species of edible, nutritious and healthful nuts than any similar area on the face of the globe. It may also be said that no other nuts, because of their flavor and body in processing foods, are as popular with confectioners as the eastern black walnut and the butternut.

Before looking closer at some of these American-grown nut trees and their mounting importance as a national resource, it might be well to review briefly the part nuts have played and are playing in the lives of many people. For "from soup to nuts," with its implication that nuts are merely dainties to top a feast, is truly an Americanism. To many people scattered throughout the world nuts, being extremely rich in protein and fat, are the feast itself. In much of southern Europe, for instance, chestnuts form the chief winter diet of poor people, who serve them in numerous ways—steamed, roasted, or even made into puddings and bread. In villages perched in the Pyrenees and Appennines, harvesting the chestnut crop is a major event. Chinese and Japanese can get along indefinitely without meat as long as they have nuts and legumes.

The word "nut" is an elastic term, including the almond, the pit of a peach-like fruit, and the ripened pods of plants

so like peas that they are called peanuts. Not all nuts are edible, as, for example, the tungnut and taguanut. Also, many common nuts travel in different parts of the country under assumed names. In Massachusetts, for instance, where walnut trees are scarce, hickory nuts are frequently called "walnuts." Brazilnuts are often called "butternuts," though they are dissimilar and in no way related to the true butternut.

Nuts vary in size from the fifty pound *coco-de-mer*, which takes ten years to grow and ripen, to tiny pine nuts no larger than coffee beans. They vary in taste from the kola nut, which has soothing properties, to the bitternut, a low-grade hickory with so much astringency in the skin of the kernel that even squirrels turn away from it.

Nuts are popular crops partly because they are not quickly perishable. Shrewd Majorcans, refusing to sell at low market prices, sometimes hold almonds for three years. Also, certain nuts may be raised on land so hilly or rocky as otherwise to be valueless. Armenians cultivate pistachio orchards on hillsides so steep they can be climbed only on foot.

Because nuts are nutritious and often require little cultivation, they appeal to primitive people who grow, gather and market them by extremely crude methods. Farmers of northeastern China, raising peanuts for food or oil, sift every inch of the turned-up soil to glean any stray pods remaining after vines are dug. In Mediterranean regions, peasant women pick soft-shelled almonds by hand, spread them to dry and tend them as babies, removing them from noonday sun, and covering them on damp nights.

In contrast to such primitive methods are modern means of nut gathering and marketing in the United States, where peanuts are threshed from vines by huge machines, and where almond orchards are heated during late winter nights to protect the opening flowers from frost. Wild dreams of wealth have been realized in machines that crack the tough babassu nut, seed of a tropical palm used chiefly as a source of oil for making soap, at the rate of over forty a minute, and that can stamp a brand of quality on individual walnuts in an annual output of millions of pounds. Other ingenious, almost human machines sort the nuts.



California Agricultural Experiment Station

Almond orchards in many interior valleys of the Pacific Coast are not only beautiful to look upon when in bloom, but produce more than normal American consumption

Far from being a prosaic affair, the marketing of nuts provides importers with many fascinating problems. Until 1923 nut importers were tearing their hair over cashews for, because of the long sea trip from India, these nuts always became infested with weevils. At last someone found a clever solution to the problem. By removing the air from the containers and substituting carbon dioxide or some other gas, they were able to keep out these pests. Retail prices soon dropped from a dollar and a half to thirty cents a pound and consumption increased rapidly.

In order to produce nuts with thinner shells, and with plumper, richer kernels, nut specialists have spent years in laboratories studying methods of culture and control of natural enemies, days in swaying tree tops making artificial crosses. Many times, when the fruit of a nut tree has not been pollinated, the nutshells mature to full size—empty. Perhaps Shakespeare remembered his chagrin at cracking such a nut when he said: "There can be no kernel in this light nut, the soul of this man is his clothes."



California Agricultural Experiment Station

The seed of peach-like fruit, almonds are native to North Africa

For centuries, men have been interested in grafting nut trees. Roman gardeners tucked up their togas and practiced grafting in nineteen different ways. France considers skillful grafting an art. In the Grenoble walnut district, grafting experts are summoned long distances, like doctors, to graft a valuable tree and are paid a large sum for the operation.

New methods in grafting are constantly being invented. For the use of a veneer-cutting device when budding trees, grafters can thank a former cabinet-maker from England who settled in Texas soon after the Civil War. Substitution of paraffin for grafting wax in the northeastern United States was first made at the recommendation of a New York surgeon who had observed its successful effect in surgery.

In colonial times, gentlemen with country estates used to exchange especially fine nut trees. Thomas Jefferson and George Washington, for example, sent pecan trees to many of their friends. Numerous old estates that have been preserved in the Chesapeake Bay country of Virginia and Maryland still boast

AMERICAN FORESTS

magnificent specimen pecan trees which trace back to these gentlemen.

Reviving on a national basis the custom of exchanging nuts with friends, the National Nut Tree Project, sponsored by The American Forestry Association, the Boy Scouts of America, the U. S. Department of Agriculture and the American Walnut Manufacturers Association, was organized in 1929 and operated for five years. To stimulate interest in native nut trees, the project fostered the gathering and planting of nuts from historic shrines in the United States. Black walnuts from Mount Vernon were sent for planting to American consulates in forty-one foreign countries. Nuts gathered from Arlington, Bull Run, the historic Shenandoah Valley, Gettysburg, Admiral Byrd's home, and the homes of other noted men were planted as living memorials.

So interested in nut-tree planting was James Stephen Hogg, governor of Texas from 1891 to 1895, that his dying request was: "I want no monument of stone, but at the head of my grave plant a pecan tree and at the foot plant a walnut tree. And when these trees shall bear, let the pecans and the walnuts be given out among the plain people of Texas so that they may plant them and make Texas a land of trees." Pecan trees are still flourishing on his grave at Austin, Texas.

This early regard for the pecan and walnut has developed with the years, and today, along with almonds, filberts, and peanuts, they constitute the most important nut crops raised in the United States.

Being native to the rich lowland regions of the South, the pecan was well known to the Indians long before Columbus embarked on his voyage of discovery. The same is true of the hickory nut and pinon. From prehistoric times the red men have valued these nuts and used them to supplement meager diets of wild game, berries and herbs.

Among our native nut trees, the pecan is America's most valuable, yielding some 60,000,000 pounds of nuts yearly. Its crop is exceeded only by that of the Persian walnut—an exotic—which has been extensively planted in this country. Though a southerner, its range is greater than that of cotton, for it will grow as far north and west as Iowa. Nut production, however, is not regular beyond Indiana and Missouri. With its huge limbs, the pecan is one of the largest and noblest members of the nation's eastern forests.

The Persian (English) walnut originated in Persia and regions about the Caspian Sea. Greeks called the walnut *karyon* from *kara* (a head, which the nut resembles) and used it to treat brain diseases. Reaching England about 1562,



California Walnut Growers Association

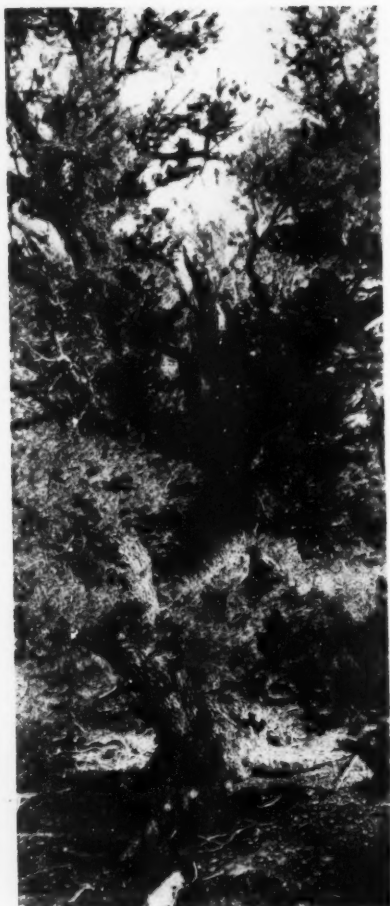
More Persian, or English, walnuts are produced in the United States, particularly in California, than any other tree nut

the walnut received a new name—the Anglo-Saxon *wealh* (foreign) *hnutu*, because it came from the continent. Two centuries later the walnut took another journey, when Franciscan monks carried it from Spain to California and planted it in the patios of their Spanish missions. The ancestors of the present California walnut industry, however, were imported from Chile in 1867 and from France in 1871.

The Persian walnut industry in this country has had an amazingly rapid growth. In 1920 there were only 59,000 acres of walnut orchards in California. By 1934 there were 117,500 acres of

bearing trees and 21,500 additional acres of trees still too young to bear. In the United States, more Persian walnuts are produced than any other tree nut.

The almond is another wandering tourist. Native to North Africa from Morocco to Asia Minor, almonds have long been crunched by Arabs and Moors. In the valleys of Sous and Haha, one finds Arabs living chiefly on honey, dates and almonds. In Asia Minor, almonds figure prominently in Hebrew life and religion. Aaron's rod that blossomed was an almond branch of pink and white flowers. The cups of the golden candlesticks that gleamed in the Tabernacle



Eugene A. Hancock

***Pinon pine of the Southwest,
unique native nut producer***

were shaped after the almond flower. Phoenicians crossing the Mediterranean carried almonds to Spain and Italy, where they flourished. For years, they have been imported to supplement the American home-grown crops, but now almond orchards in many interior valleys of the Pacific Coast produce 10,000 tons yearly, more than normal American consumption.

The filbert, often called hazelnut, is also of Old World origin. Production in the Pacific Northwest more than doubled in the five-year period ending in 1940, but the 3,200-ton annual harvest was only half enough to meet American requirements. An equal amount was imported.

Although out of the lofty realm of nut trees, the peanut cannot be ignored in any portrayal of the nation's nut resources. For one thing, it is the best known nut on the North American continent, and the United States produces and consumes a billion pounds yearly. For another, peanuts right now are one of the most important sources of war-

time food oils. And it is interesting to note that Americans, even in normal years, consume five times as much bulk of peanut butter as they do roasted peanuts.

Discovery of peanuts in prehistoric graves of South America lead people to believe that the Virginia-type peanut originated in Brazil, where it was eaten by Indians. Spanish explorers nibbled the nuts en route to Africa, where they became cultivated. African slaves were fed peanuts on the long voyage to America, and thus introduced them into the West Indies and then into the United States. Southern planters raised them for years, but it was not until after the Civil War, when they were used as a flour substitute, that they penetrated the North. When the war ended, the boys in blue marched home with peanuts in their pockets.



Purdy

***Filberts from the Northwest may
eventually meet home consumption***

Americans have not yet come to fully appreciate the true value of their native wild nut crop. Because of this, and inefficient methods of harvesting, there is great waste. The first snows of winter in the Northeast will probably find much of the 1942 nut crop on the ground, the kernels of black walnuts discolored and bitter from the hull juice which has penetrated the shells, and hickory nuts, at least those left by squirrels, deteriorating rapidly.

Scarcity of certain nut imports may change this situation. Higher market values and improved methods of harvesting can do much toward encouraging farmers and other nut tree owners to make the most of a fruitful crop. Favorable to this is the fact that this

crop is already in existence.

The esteemed eastern black walnut is indigenous over a large territory, from New England to the southern Appalachians and west to Nebraska. The butternut, perhaps the hardiest of nut trees in the country, is most at home from Maine to Pennsylvania and west to eastern Minnesota. Exclusive of the pecan, which is a true member of the family, the best of the hickories, found pretty generally throughout the East and South, are the shagbark, with its small whitish nuts, and the shellbark, with larger and flattish nuts. Many believe the kernel of the shellbark to be the sweetest of all American nuts.

In many ways, the beech is a prized tree throughout much of the East, but its nuts are seldom used except as mast for stock and poultry, chiefly because they are too small to harvest. Europeans, who have more patience, obtain an excellent salad oil by compressing beechnuts.

(Continuing on page 43)



Bureau of Plant Industry

***Valuable American native nut
tree is the eastern black walnut***

AMERICAN FORESTS

ASSOCIATION ADOPTS 1943 WARTIME PROGRAM

Appraisal of Nation's Forests Under War and Post-War Conditions Highlights 4-Point Plan Voted by Board of Directors

A 1943 wartime program for The American Forestry Association was adopted by its Board of Directors meeting at Washington on November 19. The program, briefly, calls for a critical and impartial appraisal by the Association of the nation's forest situation under war and post-war conditions; intensification of present educational and legislative activities to assure the best possible protection of forests from fire, the adoption of improved methods of forest practice, and the avoidance of unnecessary waste; and active promotion of research in the field of forest products by the federal government, industry and educational institutions.

Unanimously approved by the Board, the wartime program was prepared by its Committee on Forestry and Land Use. Members of this committee are Samuel T. Dana, Michigan, chairman; William B. Greeley, Oregon; Frederick P. Champ, Utah; James G. K. McClure, North Carolina; and C. P. Wilber, New Jersey. The report of the committee follows in full:

"In accordance with instructions received from the Directors at their meetings on March 19 and June 18, 1942, the Committee on Forestry and Land Use submits the following recommendations concerning the general field which The American Forestry Association should cover and the specific activities which should receive special attention in 1943 in view of the war situation:

"The Association should concentrate its activities primarily on the fields of forestry and range management, while at the same time maintaining a sympathetic interest in other phases of conservation and land use. 'Forestry' should be interpreted in its broadest sense as including all of the products and services provided by areas in which trees and brush are the dominant form of vegetation. These include not only wood and other products of the trees themselves, but wildlife, forage, recreational values, and the influence of the forest on meteorological conditions, erosion, and the water supply. Range management is properly the concern of the Association because throughout most of the country forest lands and range lands are so intermingled that their handling con-

stitutes part of a single problem. Within these fields the Association should assume active leadership, both in its educational and legislative activities, in promoting sound management of the resources involved and wise utilization of their products.

"In other phases of land and water use, such as the control of stream pollution, the engineering aspects of flood control, the development of navigable streams, the broader aspects of farm management, the conservation of mineral resources, and the care of shade trees, lawns, and gardens, the Association should take an intelligent and sympathetic interest. It should publish occasional articles dealing with these subjects, and should cooperate with other organizations to whatever extent may seem advisable in specific instances in supporting desirable policies or legislation relating to them, but without feeling the same responsibility for taking the initiative as in matters relating directly to the forest and the range.

"For 1943 the Association should direct its efforts primarily along the following lines:

"1. Intensification of present educational and legislative activities to assure the best possible protection of forests from fire, the adoption of improved methods of forest practice, and the avoidance of unnecessary waste, including specifically:

"a. Aggressive participation in the campaign of the Association of State Foresters to obtain an authorization under the Clarke-McNary Act of \$9,000,000 for Federal cooperation in fire control and of \$1,000,000 for Federal cooperation in the control of insects and diseases.

"b. Vigorous leadership in obtaining constructive State legislation to control cutting on privately owned forest lands, in accordance with the position taken by the Association in its resolution of October 20, 1939, and reaffirmed on subsequent occasions.

[In its resolution of October 20, 1939, the Association favored regulatory power by the states to require that all forest lands be so handled as to maintain them in productive condition. Such a requirement, it was felt, would permit of

complete flexibility in adopting methods of management best suited to individual properties, would not affect the practice of progressive owners, would constitute a reasonable restraint on others, and would safeguard the interest of the public.

This position was reaffirmed by the Board on September 22, 1941, in urging a joint program of action between private owners, state governments and the federal government to meet the need of social control in keeping all forest lands productive. The Association restated its belief that this social control should be exercised by the states, with ample opportunity for the participation of private forest owners and acceptance of proven methods of forest practice as developed and applied by forest owners. Federal participation, it was felt, can best take the form of liberal financial contributions to states which enact and enforce legislation providing for standards of management satisfactory to the federal government. Cooperation of this sort, which has proved its effectiveness in fire control under the Clarke-McNary act, would, it was felt, provide a reasonable degree of federal leadership and guidance in a cooperative program without removing primary responsibility for and administration of regulatory measures from the states.]

"This position is based on the belief that control of destructive cutting practices constitutes an important part of any comprehensive state forest policy, and will be helpful in stimulating better forest management through private enterprise and initiative. To give this program scope and force as a national movement, the Association should favor a broadening of the Clarke-McNary Act to provide for Federal cooperation with the states in developing and applying desirable forms of control adapted to local conditions, according to the plan already successfully in effect in fire protection. At the same time, the Association believes that every possible incentive should be given to progressive forest management through private enterprise and initiative, and that any forms of public regulation should be closely related to the interest, experience, and responsibility of forest owners in each locality.

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FLAMBEAU

The Story of a Wild River

By ALDO LEOPOLD



The thrill of white water on the Flambeau, Wisconsin's last wild river

PEOPLE who have never canoed a wild river, or who have done so only with a guide in the stern, are apt to assume that novelty, plus healthful exercise, account for the value of the trip. I thought so too, until I met the two college boys on the Flambeau.

* * *

Supper dishes washed, we sat on the bank watching a buck dunking for water-plants on the far shore. Soon the buck raised his head, cocked his ears upstream, and then bounded for cover.

Around the bend now came the cause of his alarm: two boys in a canoe. Spying us, they edged in to pass the time of day.

"What time is it?" was their first question. They explained that their watches had run down, and for the first time in their lives there was no clock, whistle, or radio to set watches by. For two days they had lived by "sun-time," and were getting a thrill out of it. No servant brought them meals: they got

their meat out of the river, or went without. No traffic cop whistled them off the hidden rock in the next rapids. No friendly roof kept them dry when they misguessed the weather. No guide showed them which camping spots offered a nightlong breeze, and which a nightlong misery of mosquitoes; which firewood made clean coals, and which only smoke.

Before our young adventurers pushed off downstream, we learned that both were slated for the Army upon the conclusion of their trip. Now the *motif* was clear: this trip was their last taste of freedom, an interlude between two regimentations: the campus and the barracks. The elemental simplicities of wilderness travel were thrills, not only because of their novelty, but because they represented complete freedom to make mistakes. The wilderness gave them their first taste of those rewards and penalties for wise and foolish acts which every woodsman faces daily, but against which civilization has built a

thousand buffers. These boys were "on their own" in this particular sense.

Perhaps every youth needs an occasional wilderness trip, in order to learn the meaning of this particular freedom.

* * *

When I was a small boy, a woods companion of my father's used to describe all choice camps, fishing waters, and woods as "nearly as good as the Flambeau." When I finally launched my own canoe in this legendary stream, I found it up to expectations in all respects save one: it is fast losing its wildness. New cottages, resorts, and highway bridges are chopping up the wild stretches into shorter and shorter segments.

To run down the Flambeau today is to be mentally whip-sawed between alternating impressions. No sooner have you built up the mental illusion of being in the wilds than you sight a boat-landing, and soon you are coasting past some cottager's peonies.

AMERICAN FORESTS

Safely past the peonies, a buck bounding up the bank helps restore the wilderness flavor, and the next rapids finishes the job. But staring at you beside the pool below is a synthetic log-cabin, complete with composition roof, "Bide A Wee" signboard, and rustic pergola for afternoon bridge.

If the banks of the Flambeau consisted entirely of private land, there would be no help for these encroachments, but the fact is that years ago some far-sighted officer of the Wisconsin Conservation Department had a vision of perpetual woods, and began buying. Today the best sector of the river is a state forest, in which the state already owns sixty-three per cent of the land. The encroaching cottages and resorts are all on the residue of private holdings which the State has not yet acquired. The job then, is to persuade the State Conservation Commission that these encroachments should be bought out, that a wild river is worth keeping wild, especially when it is the last one in the state.

* * *

The first mental hurdle is one of scale. One is apt to assume that the acreage of a public wilderness area must be measured in six figures before it has any value for wilderness recreation. This is true of packhorse country, but it is not true of canoe country. A wild strip on

each bank, wide enough to exclude the bawling of cows and the honk of motors, is quite sufficient to give the illusion of wild space, especially when the river does its own bawling and honking at each rapid. The deer, eagles, ravens, and whisky-jacks which inhabit the Flambeau help build up the effect, and at night there is at least an off chance of hearing a wolf howl; Wisconsin's last pack travels a wide circuit including the upper Flambeau.

A second mental hurdle is the prevalence of slashings. Most of the Flambeau forest was cut over before the state could acquire the land. Virgin timber is restricted to a few streamside strips, and scattered blocks of state-owned sections. How can we have a wild area consisting mostly of cutovers?

The answer, which will be understood by most canoeists, but perhaps by few others, is that lumbering, when not followed by too much fire, hurts the recreational quality of a waterway much less than cottages, resorts, and motors, and for a much shorter time. In fact the old scars of lumbering, if not too universal, often add interest to a canoe route. Why did the early loggers leave this bank of logs to rot on the landing? (Legend tells of a drouth year when the river was too low to carry the usual fodder to its hungry mills.) Why did they leave this giant pine uncut? (A close examination

usually reveals that the trunk is forked, or has a catface, or contains heart-rot.) Thus "reading the sign" of old loggings is part of the fun of a down-river trip.

A third mental hurdle is the seeming conflict between wilderness and forestry. On a state forest the foresters quite properly wish to harvest mature timber by selective logging, and they fear that a wilderness area along the river will interfere with their doing so. The answer is plainly written in those sections of the Flambeau where a streamside strip of uncut timber has already been reserved. A few hundred feet of untouched timber on each bank, backed by a few miles of selective logging, provides a very realistic impression of wilderness along the river route. The hardwood logs of the Flambeau, being unfloatable, must go out uphill instead of down; a circumstance which makes it entirely practicable to utilize the mature timber and at the same time to keep roads off the banks.

One insidious danger to public forests is the notion that in order to control camp sanitation and campfires, a chain of camp sites must be embellished with toilets, fireplaces, rustic tables, and trimmings. I would as soon dig ditches in a dress suit as to so bedeck the Flambeau. If the Flambeau were a swampy stream with only a few good camp-sites, heavy public use might soon foul them

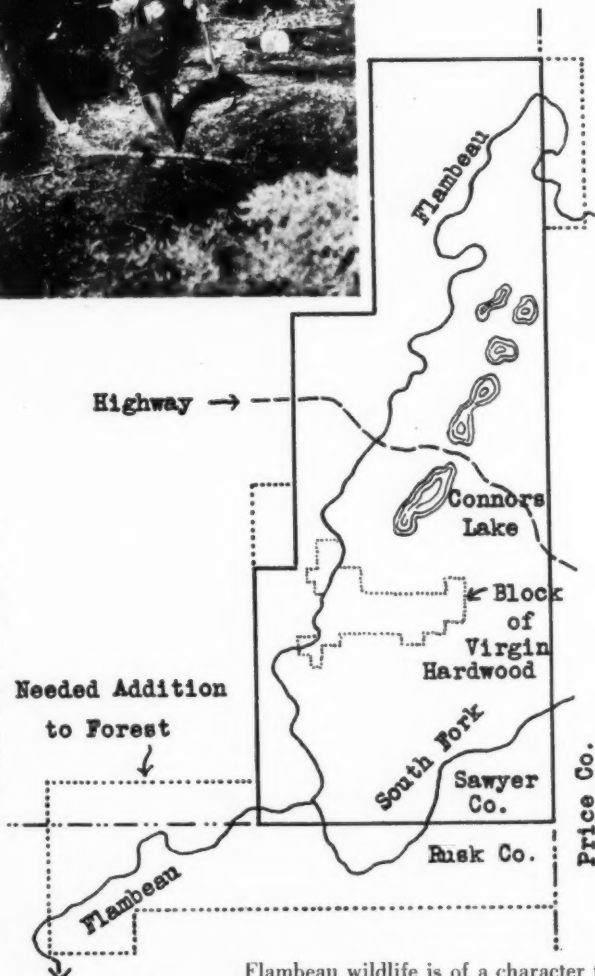


Wisconsin's last wild river, the Flambeau, also has many stretches full of peace and beauty



Cutting hemlock in scattered stands in Sawyer County, near the Flambeau River

Outline of the 70,000 acres of Flambeau State Forest, and showing the proposed canoe route down the Flambeau — truly wild country which, says the author, should be forever dedicated to lovers of the wilderness



and leave no choice, but the Flambeau is in fact a highland river with dozens of good camp sites for every mile of riverbank; campers can disperse widely, and thus avoid the over-use of any one spot. Most down-river parties outfit at two or three starting-points. It would be feasible to insist that each party carry a bucket to douse fires and a shovel to bury all refuse, and to clamp down on those who neglect to use them.

Flambeau wildlife is of a character to please both tyro and expert. The river is famous for its muskellunge and bass; it also contains sturgeon. We saw fifty-two deer in the river during a day and a half afloat; the strong deer-line on all white cedars, and the heavy nipping of mountain maple, dogwood, and pine seedlings suggests that there are too many deer for their own good, and that an increase in the remnant of wolves would be salutary to all concerned. Mer-

gansers, black ducks, and wood ducks hatch along the river. There are still ospreys and bald eagles. The most southerly Wisconsin outpost of ravens is found here. Beavers are scarce because there is little aspen, but muskrats thrive on the river's abundant mussels, and minks thrive on the muskrats.

The Flambeau's real thrill for the more experienced naturalist arises from the possible existence of a remnant of marten in one of the blocks of uncut timber. The last known marten skin came out of the Flambeau in 1900. The species has been considered exterminated, not only from this region, but from the state. In 1940, however, a deer hunter who is also a taxidermist and naturalist reports seeing a live marten, and a reliable local trapper saw tracks in the same locality during the same winter. He also saw tracks in another locality six years ago. If martens still live on the Flambeau, the creation of a wild area is justified on these grounds alone; the recreational and forestry values may be regarded as "velvet."

* * *

Paul Bunyan was too busy a man to think about posterity, but if he had been asked to reserve a spot for posterity to see what the north woods looked like, he likely would have chosen the Flambeau, for here the cream of the white pine grew on the same acres with the cream of the sugar maple, yellow birch and hemlock. This rich intermixture of pine and hardwoods was and is uncommon. The Flambeau pines, growing on a hardwood soil richer than pines were ordinarily able to occupy, were so large and valuable, and so close to a good log-driving stream, that they were cut at an early day, as evidenced by the decayed condition of their giant stumps. Only defective pines were spared, but there are enough of these alive today to punctuate the skyline of the Flambeau with many a green monument to bygone days.

The hardwood logging came much later; in fact, the last big hardwood company "pulled steel" on its last logging railroad within the decade. All that remains of that company today is a "land-office" in its ghost-town, selling off its cutovers to hopeful settlers. Thus died an epoch in American history: the epoch of cut out and get out.

Like a covote rummaging in the offal of a deserted camp, the present economy of the Flambeau subsists on the leavings of its own past. "Gypo" pulpwood cutters nose around in the slashings for the occasional small hemlock overlooked in the main logging. A portable sawmill crew dredges the riverbed for sunken "deadheads," many of which drowned during the hell-for-leather log-drives of the glory days. Rows of these mud-

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AN OLD NEW ENGLAND MEDICINE CHEST

By OWEN BALDWIN

"THE only thing that actually kills fleas," said Old Dr. Jameson, "is powdered derris root. All other remedies are nothing more than stupefiers."

Dr. Jameson was grandfather's family physician up in New England, and his observation on how to keep old Rover happy was made more than forty years ago. Today powdered derris root still remains the only real flea killer that is harmless to mankind.

Derris root for old Rover's fleas, however, occupied but a small niche in grandfather's medicine chest. Tucked away were "cures" for every ailment people of his day had to deal with—cures for the most part concocted from the plants of field and forest under the wise guidance of old Dr. Jameson. Needless to say, grandfather had some ideas of his own and seldom hesitated in applying them.

For instance, I vividly recall contracting a sore throat while visiting him one summer. The old gentleman insisted there was no better remedy than a long slice of salt pork slung around my neck and securely held in place by a piece of flannel. I am not sure whether it was the efficacy of the treatment that did the job, or a miracle accomplished by an overwhelming determination to get well,

but my throat was so much better the following day that the repulsive "cure" was not repeated.

On another occasion my cousin Horace, who was a choir soloist, developed a bad case of hoarseness while visiting the old homestead. Grandfather, who liked to hear him sing, listened to a few raspy notes and decided to do something about it.

"I have something," he said, "that will put you in fine shape by morning. But we will have dinner first—it works better after you eat."

So while the dinner dishes were being cleared from the table, the old gentleman brought out his hoarseness remedy—a jar containing powdered sulphur. While Horace looked on quizzically, he rolled a small piece of paper into the shape of a funnel, dumped a spoonful of sulphur in it, and instructed his patient to open his mouth "wide."

Horace never dared dispute grandfather's knowledge of medicinal preparations any more than he would challenge his authority. So, trembling, he threw his head back and hesitatingly opened his mouth. Before anyone knew what was happening, the old gentleman blew the fine yellow powder down the patient's throat. What took place after



that can be imagined. Springing to his feet with a sudden feeling of suffocation, his cheeks bulging like a pouting pigeon, cousin Horace disappeared from the room. For three days he was solemn and wan-faced. I can't recall what happened to his hoarseness, but the chances are it disappeared.

Grandfather used sulphur in other concoctions. He said sulphur mixed with molasses was good for the blood. He believed that everybody needed a good "spring purge" and always had plenty of that unpalatable combination on hand. He also recommended molasses mixed with finely chopped onions for colds. Just the thought of those two preparations was sufficiently revolting to deter me from visiting him in the spring.

But nothing could prevent me from being on hand when grandfather roamed the fields and scoured the wooded banks of streams for the roots, fruit, leaves and bark of plants for his medicine chest. We gathered goldthread, a thin, vine-like root he kept on hand for treating mouth canker. When goldthread was steeped with goldenseal root (ground raspberry), the resulting beverage, some people claimed, had the ability to "destroy the appetite for intoxicating liquors." Grandfather wasn't interested in gathering goldenseal root. We cut poke weed, a plant with wide, curly leaves resembling skunk cabbage.



For the medicine chest we gathered Goldthread, a vine-like root, for treating mouth canker and (right) Skunk Cabbage from which a "vile libation" to cure asthma and whooping cough was brewed

The leaves were dried and mixed with various herbs, fused and taken internally as a medicine—for what ailment, I have long since forgotten.

We gathered dandelion roots, because they made a good liver tonic. Roots from blue bells or "Jacob's Ladder" were helpful in fevers and pleurisy. Leaves from the yellow snake-leaf plant called adder's tongue, found favor as a poultice or were used in cleansing and healing bad sores. We hunted tory weed called "hound's tongue," used it as an astringent and for hemorrhages. Being somewhat narcotic, it was said to assuage pain.

We dug mandrake, or May apple; the



Roots from Bluebells, or "Jacob's Ladder," were helpful in the treatment of fevers and pleurisy and (right) Poke Weed leaves, dried and fused with herbs, were an internal cure-all grandfather swore by

plant has small yellow berries possessing a strong acrid smell, and curious five-fingered roots resembling a human hand. There was an old superstitious belief the plant cried when picked or dug up. It had many uses, principally for jaundice, liver complaints and bilious attacks.

We brought Aunt Sarah, grandfather's maiden sister, stalks of common milk weed to treat her dropsy, and carried home devil's trumpet, called "James-town weed" in Virginia, "thorn apple" in other places, because of its prickly, egg-shaped pods. These contain a poison known in modern medicine as stramonium, a powerful narcotic formerly used by asthmatics. We cut everlasting, often known as "poverty-weed," a plant with a silvery leaf. Clusters of this were placed around the rooms to keep the flies away. The leaves were dried and crushed, then stored in an air-tight container and used later in brewing a

tea said to be a good tonic possessing nerve-building properties. Poverty-weed tea was another remedy recommended to assuage lameness.

Grandfather had other tea preparations. There was tea made from bone-set, the white blossoms of thoroughwort, taken for stomach disorders. Kidney-wort tea, fused from clusters of cerise-colored kidneywort blossoms, was prescribed to alleviate kidney trouble. And, of course, there was sassafras tea taken as a mild spring tonic. Catnip tea, very soothing, was given to colicky infants. It was also used to "bring out" the measles.

In the old days, people seemed to have



weed" or "stinking poke." If the patient had a bad case of asthma accompanied by spasms, then bark from the squaw bush enjoyed first place among possible remedies. The holly tree came in for use other than Christmas decorations. A liquor obtained by boiling holly leaves and bark facilitated expectorating and had mild cathartic properties. It found popular favor in the treatment of coughs, pleurisy, gout, and even smallpox.

There was skunk oil for stiff joints, snake oil liniment for sprains and soreness. Bear oil was used for rheumatism. Grandfather said he could never see the difference between stiff joints and rheumatism so he used bear oil when his skunk oil gave out. Curiously enough, poison ivy, poison sumach and poison oak were recommended for chronic rheumatism. They were also used as remedies for chronic paralysis and skin diseases.

Old Dr. Jameson said balm of gilead buds made a good liniment. The buds were always picked when full of wax, then soaked in rum to make the balm. Grandfather never made any. He said that was a terrible waste of good rum, when bear oil would do just as well.

The old fashioned garden wasn't overlooked in grandfather's search for herbs and roots with medicinal properties. Lettuce roots were supposed to be stupefying and help promote sleep. The passion flower was said to be a sedative that acted upon the nervous system very quickly. Its leaves and petals were recommended for insomnia and neuralgia. Many dropsy sufferers finding no relief in other remedies, paid loyal tribute to

much trouble with intestinal worms and the equally debilitating tapeworm. White poplar bark, pussywillow bark, black alder berries, watercress, cardinal flowers, pumpkin seed, mulberry bark and female fern were remedies used with varying degrees of success.

Dieting was not in vogue during grandfather's day. Plumpness among the fair sex seemed to be the prevailing fashion. Obesity was another story, and the ladies drank tea made from white ash seed to wash away surplus avoirdupois. Corns might be removed by an extract made from red clover blossoms. And the juice from goose grass (scratch weed) had many female followers who attested to its freckle removing properties.

Grandfather's treatment for whooping cough and mild asthma attacks consisted of a vile libation made from skunk cabbage roots, often called "polecat



From the roots of golden Dandelions a liver tonic was concocted

lily-of-the-valley roots, watermelon seed and asparagus.

Some people said peony flowers cured St. Vitus dance and epilepsy. Juice from the garden celandine, a plant resembling wild touch-me-not, was often suggested for warts and other fungus growths. Peach tree bark and kernels from peach seed helped undulating fever. The leaves aided bladder disorders and stomach aches. Ordinary parsley had many uses. For one thing, the bruised leaves were helpful in treating the bites and stings of insects.

Grandfather had remedies for dysentery and diarrhea made from rattlesnake-fern root, cud weed, also called "mouse ear" and smoke plant root, often called "Aaron's beard" or "wig tree." All had a horrible taste. However, he had one libation I never objected to, but he used it sparingly on others, as he was pretty fond of it himself. He always stored it, securely locked up, down at the spring house with other bottles and jugs. The preparation was made from black cherries and rum. What a potent liquor! His dysentery drink was the best cordial I ever tasted.

Sage had another use besides giving zest to roast turkey and goose stuffing. The ladies used it to dye their hair, but they did their dyeing surreptitiously. Grandfather said the ancient Spartans thought anything you shouldn't do was all right, as long as you weren't caught doing it. I guess that was why grandfather would facetiously call Aunt Sarah, "Sparta."

Pete, a big husky fellow, was grandfather's hired man. He never gave any trouble, except that once in a while he

would suddenly go into an epileptic fit. Then grandfather would send for Dr. Jameson, but he didn't seem to do Pete much good. Somebody told grandfather about a remedy the Indians used in treating fits. It was a tea brewed from the roots of a wild plant said to resemble angelica. The roots had a turnip-like smell and were always dug in August. The plant was very poisonous. Grandfather steeped the tea and gave Pete a spoonful each day. Pete soon stopped having fits. Old Dr. Jameson heard about this and was worried. One day his buggy pulled up the driveway.

"Pete, you still takin' that stuff?"

"Yes, doctor," was the reply.



whole world the important drug, adrenalin. Belladonna leaves (deadly nightshade) were used in convulsions and nervous disorders. These leaves are the source of a poisonous alkaloid having a definite place in modern medicine. *Cascara sagrada* (sacred bark), whose laxative properties were well known in the old days, is still widely used. Ergot, obtained from the fungus growth on diseased rye seed and used by the oldtime doctors to promote labor in childbirth and as an emmenagogue, still enjoys the same uses.

Horehound cough syrups and candies are as familiar to us as to our grandfathers. Saffron flowers now command



The small yellow berry-like fruit and roots of the Mandrake, or May-apple, were potent in liver complaints and (right) Digitalis, the powerful heart stimulant, was obtained from Foxglove leaves



Stalks of common Milk Weed did wonders for Aunt Sarah's dropsy

"Well, you take any more and you'll be a dead man."

"Doc, I'd rather be dead than have fits all the time."

Pete, who outlived the good old doctor by many years, had a few beliefs and remedies of his own. One of these was for rheumatism. "Just carry a horse chestnut in your pocket," he said, "or wear an eel-skin belt."

Syphilis was treated by such useless prescriptions as yellow dock root, Virginia creeper, bitter root, climbing bittersweet, woody nightshade, burdock seed, plantain leaves, canker violet, queen's root, stagger weed, and snake-lily roots.

Digitalis, obtained from foxglove leaves, was used in the old days as it is now when a powerful heart stimulant is essential. Quinine, product of the tropical cinchona tree, was and still is the fever remedy. The lowly toad gave the

a high price as the source of natural vegetable orange coloring and flavor for confectionery and liquors.

The principal uses of spearmint were to relieve colic and spasms, and prevent vomiting; but in our time it helps sell millions of dollars worth of chewing gum annually. Witch hazel bark is still used in a tincture for painful swellings. Angostura bark helped grandfather's biliousness. Anis seed, once used in making a preparation to allay nausea, now gives an aromatic flavor to a popular cordial. Arnica flowers are still demanded in preparing a tincture recommended for bruises and sprains.

Because so many modern medicines and preparations of everyday use are derived from strange and unusual sources, I am restrained from dismissing with ridicule and laughter all the "cures" grandfather had tucked away in his medicine chest.

HOME LIFE IN EGRET LAND

By HUGO H. SCHRODER

Photographs by the Author



On a platform of sticks—precariously placed—inaccessible, the nest of the American egret was difficult to photograph

Two fuzzy youngsters, — skinny, homely — squawked most inhospitably



KNOWN to few people, the city of the egrets was only a half mile from a well traveled highway. It was just as well that this American egret community was unknown to the thousands who traveled the nearby roadway, for the nesting season was just beginning. Too frequent disturbance by human visitors might have caused the handsome birds to abandon their nest colony, or given marauding fish crows an opportunity to dine on the eggs while the birds were away from their nests.

The beautiful, snowy-white egrets had chosen the fastnesses of a tree covered island in the center of a large marshy Florida pond. That is, it looked like an

island from the shore of the marsh,—but a close-up view somewhat altered the earlier impression. There was very little solid ground available anywhere, except for a few feet on either side of the individual trees. Everywhere else there was water, and not just a shallow pool either. Frequently a step-off from solid ground meant submersion into two or three feet of water.

To further complicate matters for wildlife photographers, there were numerous "wait-a-minute" vines festooned between the trees and hanging over the water. These thorn covered vines caught at our clothing almost at every step. Thus between trying to keep from fall-

ing and ruining our photographic equipment, and dodging the barbed vines, progress in egret-land was extremely slow.

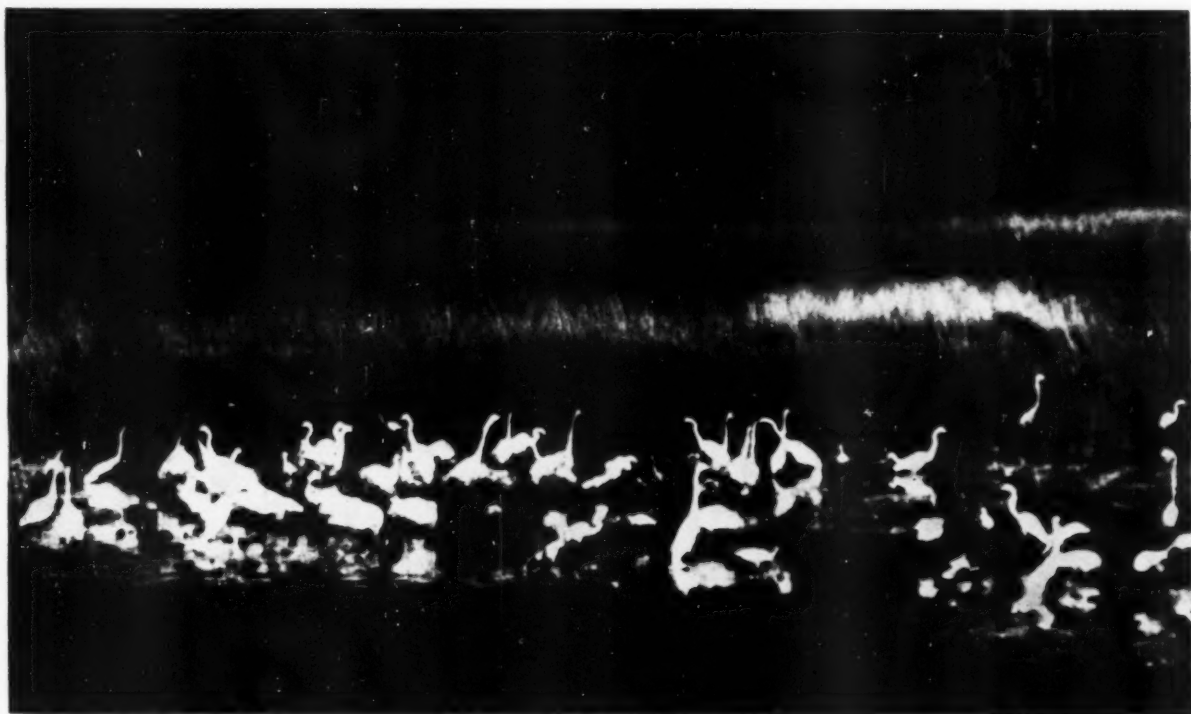
Hazardous as the footing was inside the nesting colony, it was a fascinating region for a wildlife photographer to visit. From the borders of the marsh, only a few of the nesting egrets had been visible. Birds dropping to a landing in the trees, or departing for distant feeding grounds, indicated that the size of the colony was much larger than had been visible from shore. Once inside the nesting colony, we discovered that numerous American egrets had completed their egg laying, while others had in-



We found these young Ward's herons at their nest in typical posture, at home in the rookery with the American egrets



Motionless — the adult bird in full nuptial plumage, snowy white with beautiful sweeping aigrettes, made a perfect picture



Within the marsh colony — egrets busy with family activities, punctuated with harsh conversation

JANUARY, 1943



The American egret in flight — an expression of aerial poetry

complete sets. The colony also contained a few nests of the larger Ward's herons and a number of water turkey nests.

While many nests were quite low—anywhere from three feet above the water, up to about ten feet—it was practically impossible to get above a nest in order to photograph a complete set of eggs. Egret nests are rather shabbily built structures to begin with,—placed in small trees, among dead wood, or supported by vines. If one tried to get a picture of eggs in the nest, there was the danger of spilling out the eggs, or, perhaps, having the slender support snap and dump photographer and camera into several feet of not too inviting water.

I tried to secure some flight photos as the birds moved over the tree tops, but only a small patch of open sky was visible and the rapidly flying birds zoomed over this area much too quickly to get them in focus before they were hidden by foliage.

The sight of the large, white egrets in the air, with their enormous, snowy pinions and trailing their nuptial plumes, made our visit a most interesting one from the ornithological standpoint.

Several weeks went by before we returned to this colony to try for additional pictures. By this time almost every American egret nest contained young birds. These ranged from newly-hatched, and rather homely little ones,

to others a week or ten days old and the voices of these egret children, added to the sounds of their elders, made a bedlam of noises. The handsome egret does not possess a very pleasing voice and the voices of the larger birds, with the most attractive plumage, do not match in beauty their feathered finery.

While it had been difficult to secure photographs of eggs in the nest, it was not so hard to get the young egrets which were large enough to show over the rim of the nest, particularly if the nest was a low one. Since our earlier visit, quite a number of Louisiana herons, little blue herons and snowy egrets had built nests in a section of the island beyond the headquarters of the American egrets.

Some of the tiny American egret babies were greenish skinned and sprinkled sparingly with a covering—not attractive at all. Even at their tender age they indulged in playful lunges at each other,—antics somewhat resembling those of kittens or puppies at play and at times they squawked and complained as lustily as they were able.

Again I tried for flight photos, but with little success. One day when wind and weather conditions were decidedly unfavorable for photography, we spent some time sitting on the shore of the marsh, where we could watch the aerial activities of the egrets and herons as they landed in the trees or flew off to their feeding grounds in distant marshes.

American egrets sailed down on curved wings, with feet dropping as they neared the tree tops; tails were spread to act as brakes. The long nuptial plumes trailed behind or curved upward, depending on the intensity of the wind. A number of Louisiana herons glided down on set wings, covering a distance of about 100 yards during their gliding descent. Later that week, I took up my station in a more open area, where I could watch birds at the nests, as well as those in flight. While I stood out in the open, egrets fifty or more feet away paid little attention to me.

This time it was quite different from the standpoint of photography; I had considerably more space to follow through on flying birds and time to change focus before the bird was hidden from view. So instead of having to wait for subjects in a limited space, I was kept busy all the time. I shot egrets in flight and at rest; sometimes exposures were made as fast as I could change films and re-set the Graflex shutter. One bird landed at a perch just above her nest. She was well out in the open so I could train my camera on her from time to time as she assumed different positions; she straightened out her long neck occasionally, although usually it was in some sort of an S-curve—the usual egret position when at rest. The nuptial plumes were visible in most of these pictures.

Not far away were several nests with

young birds. The nearest held two babes, whose bodies were covered in spots with a downy fuzz. This seemed to be heaviest on their heads, standing straight up and giving them a rather unusual appearance. Even though it was only March, the babies were panting in the warm sunshine.

The flying birds supplied me with a variety of aerial maneuverings, and no two pictures were the least bit similar. I caught birds with fully spread wings, leisurely sailing over the trees; birds in landing positions, with wings curved forward and feet held well to the front for grasping the slender perch. In one shot I captured two birds in widely different flight actions,—one landing at her nest and showing the elevated wings, one of which came almost to a point. The other bird was preparing to land. Her wings were extended far forward in a graceful, rounded curve, in such a position that almost every wing feather was visible. The right wing showed how the end feathers are held apart in certain flight positions. The feet were dropped and toes spread, in readiness for the landing just ahead.

Best of all, I caught the lovely aigrettes—the nuptial plumes—trailing beyond the tail, extending as far as the end of the bird's long legs. The head and neck feathers of both birds were puffed out, possibly in annoyance at my intrusion so near their homes.

After exposing numerous films from this vantage point, I decided it was time to leave, so the birds could come in to feed the young in the nests near where I stood. Leaving the cumbersome Graflex behind, I set out on an inspection tour of the entire island colony—the first I had made around the rookery. I found scores of nests of the smaller herons and egrets, but they were even harder to get to than those of the American egrets had been. Struggling through the tangles of thorny vines and floundering in water up to my middle, sometimes the footing was too hazardous to venture ahead. Often I had to hold on to branches in order to get back safely to the stepping-off place.

It was impossible to cross through the center of the colony because of the uncertain footing. It was a case of climbing up on a mass of vegetation and then dropping into deep water a few feet ahead. Finally I found a large area of pickerel weed growing in a dense cluster,—so matted that it would support my weight, and this enabled me to make better time for a considerable distance. After reaching my photographic equipment, it was still necessary to wade through the marsh, where the water was about three feet deep most of the way. As I was carrying two cameras, a case for films and accessories, a heavy tripod, and other equipment, it was sometimes a problem to

keep all this material from dragging in the water.

The following year we discovered an American egret rookery on a small island in a marshy pond. While the distance to the island was less than 200 feet, it was impossible to wade through the marsh because of the deep water and soft bottom. However, the birds were nesting around the outer edge of the rookery, and this gave us an opportunity to watch their actions at the nests and in the surrounding trees, where numerous other birds were perched. We saw the ceremony of nest relief, when one bird returned to the nest to take over the duties of covering the eggs; later the other egret flew off to the feeding grounds. We witnessed various nest building activities and the actual placing of the nest material.

One bird, busy at nest construction, faced in our direction while she arranged numerous sticks in their proper positions. All during this work, she displayed the nuptial plumes, erecting them in the manner of a peacock with his finery fully spread.

It was interesting to note the various displays of the aigrettes visible from the shore and the length of the plumes, which varied considerably on different birds. At times there were more than a score of egrets plainly visible, either at nests or perched in the trees. Such a

(Continuing on page 47)



In nuptial plumage — lovely wings spread — they settle on the nest



The Twin Trees and famed Rufus Stone in England's ancient New Forest

BRITAIN'S ANCIENT FORESTS

War is Taking Its Toll, but a Few Medieval Woodlands Still Survive

By E. R. YARHAM

THIS war is completing the swift and sweeping change of the face of England which began during World War I. Because of the unprecedented demand for home-grown timber, old and established woodlands are falling before the ax. Only a few relics of the medieval forests survive.

The Forestry Commission is the most radical influence at work. It has been functioning for only twenty years, but in that time it has altered large tracts of England beyond recognition. In the past most of the country's woodlands were of the hardwood type; but the demands of modern industry are for quick-growing softwoods, millions of which have been planted. Hardwoods such as oak, ash, beech and sycamore have been used chiefly as a roadside screen for the softwoods.

The ancient forests that have survived are reminders of an England that is fast vanishing. Their very names—Savernake, Hainault, Epping, Galtres, Sherwood, Ashdown, Wirral, Barnsdale, Dean, Windsor—are soaked in history, and their story is inextricably linked with that of the English people.

Perhaps the most famous of all England's ancient woodlands is the New Forest, although its name does not convey that idea. It derives its name from the afforestation schemes carried out by William the Conqueror almost 900 years ago. On the spot where stood the oak from which, according to tradition, glanced the fatal arrow which slew William Rufus, stands the Rufus Stone. In the forest still live and work the descendants of the charcoal burners who found the dead king's body.

In the forest also is the picturesque little town of Lyndhurst, with the old Verderers' Hall of the King's House. The venerable court of Swainmote still meets, and the hall even now preserves the atmosphere of the great days of the chase. In those days the forests of England were the haunts of far more formidable beasts than the deer, among them the wild boar and the wolf, while the bear survived until about nine centuries ago.

Cities were walled, and to get within their safe precincts was the aim of every traveler, for the forests were not only the haunt of wild beasts but of robbers. Some of England's ancient curfews were first established because of these terrors, and they ring to this very day, as of old. A celebrated curfew is that of York, which rings out from St. Michael's.

AMERICAN FORESTS

Spurrier Gate. This one continues its career because of the help it once gave to a traveler who lost his way in the then wolf-haunted forest of Galtres. He left sufficient money for it to be rung in perpetuity, and it gives out its guiding clang at eight every night. In former days the forest of Galtres covered most of the North Riding and spread to the very walls of York.

Likewise, at Wokingham, in Berkshire, the bell rings out twice a day because a thankful traveller left funds to pay the ringer, after he had been saved when benighted in the nearly impenetrable woods. A quaint custom survives at Newark-on-Trent, known as "ringing for Gofor." A man by this name was lost in the dense forests surrounding the town, but he was guided to safe haven by the sound of the church bells. So now, in accordance with his bequest, they are rung every year on six Sunday evenings in the autumn.

In those times the forest formed part of the historic Sherwood glades, immortally associated with the name of Robin Hood, finest of archers and gentlest of robbers. To the west, where the forest formerly stretched, lies the village of Hathersage. There two upright stones mark the traditional burial place of Long John, his faithful servant. Even until comparatively recent times there were so many deer in Sherwood they interfered with farming. In 1708, at Retford, a petition was drawn up by the inhabitants, describing themselves as "The Notts Gentry," to the House of Commons, praying that, as the deer numbered many hundreds, "Unless we



British Council

Bound up with England's history is famous Epping Forest

have the limits of the Forest ascertained we shall have such a clog and burden upon our estates that our posterity will never be able to shake off."

One of the most picturesque of wooded areas left in Britain is the Forest of Dean, which preserves magnificent scen-

ery. The very names on the Ordnance Survey Map call up to the imagination the almost inexhaustible appeal of this forest—the Near Harkening and Far Harkening Rocks, the Buckstone, Suckstone, Devil's Pulpit, the Caldwell Rocks, the Seven Sisters, the Dripping Well, the Speech House, Whipping Brook, Jack of the Yat, the Newland Oak, and the Scowles, which are traces of old Roman iron and tin workings, as picturesque as they are interesting.

To this ancient forest came Nelson to report on its condition, when England was facing a continent under a tyrant as she is to-day. For in those days much of the timber for England's "wooden walls" came from its glades. As contrasted with today the shipwrights liked a crooked oak, since it was easier to fashion for the framing of a vessel. Nelson complained that the forest was being too rapidly denuded, and ever afterwards his famous commander and friend, Collingwood, went about with his pockets full of acorns dropping them in likely spots so that England should never suffer a famine in great oaks.

The Forest of Dean was a favorite hunting ground of Saxon, Norman and Plantaganet kings. Messengers with the news of the capture of York found the Conqueror hunting in its glades, then teeming with boar. The ancient forest laws were once administered in the venerable Speche (or Speche) House, and



British Council

Ancient elms in Windsor Forest lead to the Sovereign's entrance

the verderers, whose office goes back nearly 2,000 years, still met there. No one knowing the forest will seek a connection between the customs of throwing bread from the walls of St. Briavels Church and the foresters' rights of timberfelling and grazing. They are co-existent and that is the end of the matter.

however, take the oath holding a stick of holly, as did their ancestors. They have the right to dig for minerals and quarry for stone, subject to the approval of the King's "Gaveller," a right obtained by being born of a free father, and having worked a year and a day in mine or quarry. Up until the days of the Plantagenets the Crown drew iron for

and valuing them at twenty shillings apiece. Not many years later the verderers probably saved the forest from destruction. It is said that just before the Armada a Spanish emissary came to England secretly with the intention of bribing the forest men to leave not "a tree standing in the Forest of Dean." The plot failed abjectly, for there were no fifth columnists in Dean.

Then there is Epping, the magnificent forest which once covered most of Essex, coming right up to London's doorstep. It also has its verderers, who are elected every seven years, and whose original task it was to see justice done in the Royal forests. Queen Elizabeth hunted until she was an elderly lady, and in Epping survives her so-called "Hunting Lodge," a great hall used in by-gone centuries for the manorial courts. Not far away are the sadly depleted remnants of the equally notable Forest of Hainault. Just ninety years ago a commission was formed for its disafforesting, and summary execution was done upon 14,000 oak trees, which had stood unmolested in their majestic prime for centuries. A few hundred acres survive.

Away west in Wiltshire, well-known to travelers on the Bath Road, is the forest with the splendid name of Savernake, which has been a forest from time immemorial. Normans and Plantagenets hunted and lived there, but it was sold—forest, house, farms, everything attached to it—towards the end of the Victorian era by its owner, an eccentric nobleman. But the heir, who loved the forest, spent two years contesting the sale in the courts, and finally gained an order forbidding it. Several thousand acres were recently taken over by the Forestry Commission, but it has agreed not to plant rigid rows of conifers among "the most ancient oaks in the land, grey giants that might have been growing in the time of the Conquest," and amid the thorn trees, the glades, and wild solitudes. All glades, avenues, and wildlife are being preserved. Savernake is the largest deer preserve in England.

South of London lie 6,000 acres of splendid rolling country, last relics of the mighty Forest of Ashdown. Once it spread across a great part of Kent, Sussex, and Surrey. It was a royal domain and descended to John of Gaunt, and was part of the estate seized at his death by Richard II. It was this seizure of the property of Henry Bolingbroke that Shakespeare used as the original cause of the tragic fate of Richard. The uncle of both, the Duke of York, made immediate protest, saying:

If you do wrongfully seize Hereford's rights,

AMERICAN FORESTS



Miller Services

The larches at Glenstriven. These Scottish Lairds, Sir Norman Lamont and Captain Campbell, are among the leading landowners supplying timbers from their great estates to meet England's war needs

The "forest free" miners still possess and utilize their privileges, preserved for generations in the parchment roll of the "Book of Dennis," written in the reign of Edward I, who confirmed the rights and customs then existing from "tyme out of mynde." They no longer,

its horseshoes from the forest. Richard the Lionhearted took 50,000 horseshoes when he went to the Crusades; timber and iron for axes were taken as well.

The Abbeys of Tintern and Flaxley jealously preserved the forest, counting the trees, 166,848, three centuries ago.

You pluck a thousand dangers on
your head,
You lose a thousand well-disposed
hearts.

Richard proved obdurate, and Henry of Hereford landed in England to claim his due. Before the year was over Richard had surrendered to this son of John of Gaunt—and not only his heritage but the crown of England itself.

The forest remained Crown land until the time of Charles II, when it was delivered over to the speculators. Now its breezy heaths are a playground to Londoners. Away in the north, too, are just a few remnants of Barnsdale Forest, which neighbored Sherwood, and which was the playground in those days of Robin Hood, who did not confine himself to the latter's glades. He wandered far, and Robin Hood's Well can still be seen. It was once in the heart of thickly wooded country. Tradition runs it was the rendezvous of the outlaws, and the well was built by them from the yield of a bishop's purse. The holy man was waylaid there, relieved of his money, and made to dance a jig before being freed.

Around the coasts of England and Wales lie the submerged relics of many

The Trees

They are tearing down the trees
Of the richly-wooded vale
Where are giants, long at ease,
Who have sheltered men in mail;
And the mightiest of these
Knows a numbness of the knees,
As the naked blade stabs deeper,
and the hidden heart-beats fail.

There is rending of the soul
When a tall trunk thunders down,
And the anguished echoes roll
To the high knap's leafy crown,
To the green boughs and broad bole
Of the next they take for toll...
While the timbered lands lie captive,
England renders up her gown.

By the tractor's shuffling beat,
By the axe-blade and the saw,
By the dust about our feet
In the glade where growth was law,
Where the rising sap smelt sweet,
And the shoeless trails would meet—
By surrender of earth's graces we
shall strip to tooth and claw.

Stern of spirit, sworn to stand,
That our birthright may remain,
We are bending heart and hand
To the breaking of the chain;
To efface the devil's brand
We have pledged our plundered land...
Yet I dream of years unborn and
greenwood grown again.

Reprinted from "Punch," 1942.

an ancient forest. In places on still days fishermen say the stumps of old trees can be seen and fragments of wood are washed ashore after gales. Cardigan Bay was a mighty forest, called "Cantred y Gwaelod," that is, "The Lowland Hundred." It was probably swallowed 1500 years ago.

Another lost forest lies off the Norfolk coast, and off the south coast once lay Dimsdale Forest, "eaten up by the sea," laments the old chronicle, together with the cathedral that preceded the present one at Chichester. Yet a fourth long-lost forest lies washed by the sea off the Wirral district of Cheshire, and there remnants of it can be seen on the ocean bed.

An old nameless writer thus speaks of the vanished forest off the coast of Cornwall,—(it may be part of fabled Lyonesse): "A league from the shore of Land's End, there is to be seen on a clear day, in the bottom of the sea, a wood of timber lying on its side, uncorrupted, as if formerly from there, when it was dry ground, thrown down by the violence of the waves." That word "uncorrupted" is fitting, particularly when applied to the Land of Lyonesse, and the days of King Arthur.



Thousands of stout oaks, rugged elms, firs and pines formerly beautifying the hills and valleys of Britain fall now before the ax, thick and fast, to meet—from home markets—war's demands. This photograph was made on the estate of Sir George Courthope, at Whiligh, near Wedhurst

Miller Service

"RIZOGLYPTICA,"—OR



Ballerina

Who has not at some time, while strolling through the forest, stumbled upon an odd formation of root or tree knot and been intrigued by the suggestion or likeness it made to some figure in human or animal life?

Senor Santiago Gonzalez Casavantes, of Mexico, has collected so many root oddities that it has become a hobby. Indeed, so far as he knows, it is a hobby unique with him, since nothing he could find in



Interrupted Communications

the libraries of Boston, New York and Washington revealed anything on the subject of arboreal caricature in nature.

Born in the abundantly wooded state of Chihuahua in Mexico, Senor Gonzalez devoted many of his youthful holidays to hiking. As one might hunt for arrowheads,



*Bombing
Germany???*



Fashion Model

Snake Fight



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ROOT SCULPTURE

By YSOBEL BOYNTON



Cave Man Battles Wolf

he was curiously watchful for capricious figures to be found in the work of nature. Many of these were given away as gifts, which aroused such interest in the recipients, that he organized a club of excursionists. Counted among its members was former Secretary of State Senor Eduardo Hay.

The pictures reproduced on

these pages were made from root and tree formations in the collection of Senor Gonzalez and are unchanged except for the addition of artificial eyes. With the proper imagination and interest, one has only to do likewise to cultivate the fascinating pastime of "Rizoglyptica," Senor Gonzalez' own word, formed from the Greek, meaning root sculpture. —Photographs by Kurt Thormann.



Bacchus



Mulatto Dancer



Boxing Kangaroo



Horse

JANUARY, 1943

PLANTATION—MODERN STYLE

At Famous Hampton, Archibald Rutledge, Writer-Naturalist, Fashions New Pattern for Plantation Life in the Carolina Low Country

By JOHN M. LOFTON, JR.



Beautiful Hampton House, the Rutledge plantation home, and a vista from the portico after its restoration



MOST Americans are of the opinion that great southern plantations have outgrown their usefulness, that if their storied grandeur still exists it is only for the benefit of a few. This is not true of Hampton, the ancestral home of Archibald Rutledge in South Carolina. Not only is this 2,000-acre plantation making a name for itself in the South of today, but it is setting an example which other plantation owners may well follow.

Back in 1900, young Archibald left Hampton to go North to college. Then for thirty-three years he headed the English department of Mercersburg Academy in Pennsylvania. He also wrote books about the Carolina low country—books which made him nationally known, which won for him the coveted John Burroughs nature-writing award, seven honorary degrees and an appointment by the General Assembly of South Carolina as poet-laureate of that state. But he longed for plantation life again.

So when he retired in 1937, he returned South to continue writing and to restore Hampton, which has been in his family since 1690. Nearing home, he saw that things were just as they had been in 1900. The countryside was still poor. Many negroes, living on what was once the plantation's slave settlement, were out of work. There had been little for them to do since rice planting and turpentine had gone out. He found Hampton house musty, in need of paint and repair, the grounds grown up in weeds.

With only a modest income he set out to resurrect the plantation as he remembered it. He didn't send for contractors and landscape gardeners. Instead, Sambo, Prince and Mose were called in and, under Mr. Rutledge's supervision, they plastered, painted, repaired, rebuilt and planted. Negro school children came happily in the afternoon to pull weeds on the great sloping lawn in front of the house. Those who were industrious were rewarded with other odd jobs. The

AMERICAN FORESTS

colored people living on and near the place were encouraged to cultivate idle fields. With its white columns once more peering through the live oaks to dominate well-groomed grounds, the old place recaptured the aspect of the antebellum plantation in all its glory.

Built in 1730 by a French Huguenot ancestor of Archibald Rutledge, Hampton had become one of the thriving rice-growing estates of the Carolina low country. It had been a part of that unique and fabulous civilization of the rice coast whose prosperity stemmed from the cultivation of enough of the golden grain to feed half the world. The character of this civilization had been reflected by Hampton's massive portico, its splendid ballroom, its limitless fields

flanking the broad expanse of the Santee River. It had been a picture to be pointed out by a proud society.

Upon Mr. Rutledge's return Hampton again became a show place, attracting hosts of visitors who delighted in walking through its aged halls while listening to its master talk charmingly of past occupants. People always wanted to imitate something about the grounds or house, so Mr. Rutledge hit upon the idea of cultivating southern shrubbery for future sales. Hundreds of magnolias, dogwoods and camellias were set out. The place also had been producing southern pine—raw material for the paper pulp industry in the South. Some of this was sold. Other ground was cleared of underbrush so that new tim-



Archibald Rutledge, master of the manor, who has returned to plantation life to make of Hampton a living, producing community where happy people live



The woods and waters of the Low Country abound in wildlife. Below—Neighbors come to visit the "Colonel's son."



ber could grow. Realizing that wildlife was a valuable asset, Mr. Rutledge set aside a 600-acre island as a sanctuary.

The countryside abounds in wildlife. Deer, quail and wild turkeys range through the pine woods. At night the big birds roost in the giant cypress trees standing over the black water of Lucas Reserve. Here in the dank recesses of the swamp live pileated woodpeckers and woodducks, raccoons and fox squirrels. Their home is silent, peaceful, far from the throb of traffic and commerce. It is this that distinguishes the Carolina plantation country.

Said Mr. Rutledge in a recent article, "At night, if you are interested, you can hear foxes barking, raccoons grunting in the marsh, and the wierdly melancholy call of the great horned owl. I love it all; I was bred to it. Nature here prevails; and there are always perceptible the mightier movements of creation, winds and tides, rivers and marching stars, love ever triumphant over mouldering decay, the mystic union of the soil and seed, love, and the years, and death." Here are the words of a man in love with his home and his neighbors.

News of the reopening of Hampton passed from mouth to mouth. From up and down the river road old colored friends of Colonel Rutledge, Archibald's father, came to visit. Some were looking for work, some merely seeking advice. They all got help of some sort

(Continuing on page 46)

THE CONSERVATION WAR FRONT

WITH the first wartime forest fire year now a matter of history, men whose job it is to protect the nation's critically important forest resource are looking toward 1943. What their problems will be and how they can be met are pretty generally understood by these veterans of the fire line. What is not clear at this time is the extent to which the essentials of fire protection, trained manpower and good equipment, will be available.

One thing experienced fire fighters take for granted is that the rare combination of circumstances which in 1942 worked greatly in their favor is not likely to be repeated this coming summer. In the Northern Rockies, for instance, even the most optimistic foresters do not look for a repetition of the unusual weather conditions which held fire-dealing lightning storms to a record low. Nor is it expected that the Pacific Coast will soon again experience so few critical periods in a prolonged fire season.

On the basis of 1942 experience and the present outlook, number one fire protection problem this summer will be manpower. Drain on trained fire fighting personnel for the armed services and for war industries has been great. At the same time new sources for replacements are becoming increasingly scarce.

Number two problem will be equipment for transportation and fire suppression—trucks, tractors, tank cars, pumps, hose, etc. Due to the heavy drain of military and war industry requirements, this equipment is expected to be more restricted than in 1942.

The situation and what is being done to meet it in critical western regions is perhaps best set forth by some of the men responsible for fire protection. For example, Axel G. Lindh, in charge of fire control for the U. S. Forest Service in Montana, northern Idaho, and parts of Washington and South Dakota, has this to say:

"The severity of the war impact upon the manpower situation in the northern Rocky Mountain country has been great. Next year's fire crews to a large degree will be made up of seventeen-year-old boys, probably obtained by recruiting before school is out. We will need a minimum of 1,000 set up in camps of from twenty-five to a hundred boys each.

"But even with these 1,000 boys, we will have only a tenth of the manpower which we needed overnight in 1940, a bad fire year. And it will be boy-power and not manpower. If we get the boys in early June and train them intensively

for five weeks, we can develop reasonably satisfactory fire crews.

"If we have any kind of a season, probably 3,000 additional fire fighters will be necessary. It is hoped that these can be obtained from local industries and residents of the region, but because they will be scattered only a small number can be concentrated on any large fire. In this event, it is inevitable that we will have to depend upon the Army."

The cost of setting up camps for 1,000 boys will run close to \$800,000 over and above that normally required for pre-suppression organization, Mr. Lindh said. At the same time, normal funds increased to war levels will be needed for fire lookouts, "even though women, old men and boys, entirely green crews, must be used almost exclusively." Increased costs are insignificant, however, he pointed out, when compared to the cost, particularly in wartime, of a bad fire year.

"The difficulty in obtaining men for our high speed parachute fire fighting corps next summer may be insurmountable," Mr. Lindh reported. "We will attempt to obtain family men who will not be immediately drafted. There is also the prospect of obtaining conscientious objectors as parachuters, providing the authorities of that program will agree. Applications from these men have already been received.

"The transportation situation also has its problems. In 1942 the Army volunteered to transport its own fire fighting crews in their big bombers when needed at long distances. This cooperation will no doubt carry over to 1943. But truck transportation must be available and ready; so must the same faithful mule pack strings that have served fire fighters of each generation.

"Local cooperator crews, the green lookouts, old men, women and boys must be intensively trained and organized this winter and spring. This requires a considerable number of experienced trainers and leaders. Many of these are now serving with the Army and Navy. Those remaining must be made to see that they now have a vital part in the war right where they are. The protection of vital raw materials and of war industry in the forests is now more important than ever before, yet it is difficult for the man in the backwoods to see his job in its essential relationship to war. Each of the few experienced men left will be needed desperately this year."

On the Pacific Coast, S. B. Show, regional forester for the U. S. Forest Service at San Francisco, reported that

the present outlook indicated a manpower shortage even more serious than in 1942. "In solving this problem in California," he said, "we must draw less on the same sources as last year because of interference with war industries, lumbering and agriculture, and find new sources and new methods. The State Guard will be called upon in times of real emergencies. We will take advantage of expanded agreements with the Youth Correction Authority and the State Prison Board to have about 800 men located in strategic camps on the forests where they will be kept busy on forest projects between forest fires. In addition, we will draw men for fire fighting direct from the prisons.

"Our plan of organizing high school groups for fire fighting will be enlarged. Another source will be the imported Mexican nationals for the guayule project. We are working on a plan to use prison labor also on the guayule project, and if this is successful these men will be added to this reservoir of fire fighters. All of these forces will work as organized crews under the close supervision of forest rangers, guards and fire control foremen."

These plans mean a drastic change in the normal fire training program, he declared. "Instead of local groups of experienced or semi-experienced men numbering about 800, there will be approximately 3,000 unskilled men who will have to be trained as organized units.

"In our plan for mechanization we are up against the second largest problem of the year—equipment for transportation and fire suppression. We were in need of added equipment last year. This season our sources of supply will be more restricted. Our experience in 1942 was that tractors save a lot of manpower. On seventy-five fires, they built 139 miles of control line. Tankers helped on 423 fires and were instrumental in controlling 232 of them.

"We are preparing for a season which will probably present more unfavorable weather conditions than 1942. Last season was a long one, lasting well into December in southern California. However, there were less than half the average number of lightning fires, and although fires would start readily and burn rapidly, there were few critical periods. On the whole we can hardly hope for such a favorable season this summer."

Allen S. Peck, United States regional forester at Denver, terms the fire protection job as the biggest single problem for the central Rockies this summer.

(Continuing on page 48)

Editorial

AS OTHERS MAY SEE IT

THE position of the U. S. Forest Service that from now on it will not support legislation to advance the protection and management of the country's forest resources unless such legislation carries with it a measure of public control over timberland owners is cause for much concern among friends of that agency.

They are concerned because they question the position as a proper one for a government bureau to assume; they are much more concerned because of the possible adverse reaction by Congress and the effect of this reaction upon the standing and future usefulness of the Service.

That the Service has chosen to take its position during the war in connection with legislation looking to better protection of our forests from fire and at a time when the prosecution of the war demands the best possible guarding of our wood supplies makes the action, they point out, especially susceptible to a variety of interpretations by Congress and the public. Some are wondering if the Service has become so obsessed with its own legislative objectives that it has failed to see itself as others may see it. It is timely, therefore, to view the case from an outside angle.

The background is a long and bitter controversy over whether or not the federal government should assume control of the cutting of timber by private owners, including farmers. The Service has been the leading proponent of this extension of federal power and an aggressive propagandist for it. After Pearl Harbor, an outside proposal was made that the controversy be set aside without prejudice for the duration of the war in the interest of unifying efforts in the forest field. As respects this proposal, the Service was intolerant and inflexible. It refused to lay aside the issue. Opponents of the proposal, led by state foresters and forest owners, thereupon continued their opposition, with the result that the controversy has grown increasingly embittered and diverting.

Throughout the controversy, however, there have been a number of legislative proposals upon which all interests agreed. One of these called for an extension and strengthening of cooperative

forest fire protection by state, federal and private agencies. The Forest Service has repeatedly stressed the need of this legislation. It forms, in fact, a plank of its larger forestry program in which is included public control of private forests. Last summer, Senator Charles L. McNary, at the request of the Association of State Foresters, introduced in Congress a bill to accomplish the increased forest protection—and nothing more—upon which there had been universal agreement.

It had been assumed, that when the time came for the Senate to take up Senator McNary's bill, it would have the wholehearted support of the Forest Service. The reverse proved to be the case. The Secretary of Agriculture, in late August, wrote the Senate that the Department was withholding its support because it believes the next forestry legislation should cover a wider field. There was no elaboration and no public announcement of this position.

In the absence of any clear-cut announcement by the Forest Service as to whether it is for or against the bill, three months were required to draw from it the fact that the bureau's support will not be forthcoming unless the bill is revised to include provisions for federal control. By simply passing a forest protection measure, the Acting Chief of the Service stated, a good trading point will be lost for obtaining other parts of the bureau's legislative program.

In late November, reports became current in Washington that an executive order had been prepared in the Forest Service and was on the President's desk for consideration. The purpose of this order as reported was to accomplish federal control of timberland owners by direct decree of the President acting under his war powers. The Acting Chief denied that the Forest Service had initiated the order but admitted its existence and that it had his approval. His position was that if federal control cannot be obtained by legislation, the need for it justifies resort to an executive order.

In the meantime, the McNary bill died with the 77th Congress. Some of its sup-

porters now are charging that the Forest Service by its tactics was instrumental in blocking its passage.

That is the case as it stands today. The position of the Service, many of its friends feel, lays it open to serious questioning by the public and overly drastic action by Congress, made angry by such interpretations as bureaucratic attempts to dictate legislation, to obstruct the passage of needed and non-controversial measures, to block forest protection at a critical time, to override the democratic legislative process by resort to executive decree and to circumvent Congress in an effort to accomplish a debatable experiment in national land management during the war.

This is a serious aspect of the case that might easily have damaging repercussions for the Service. That this view is not exaggerated seems clear from the rising temper of Congress in respect to what it considers bureaucratic usurpation of its legislative prerogative. Said Representative Martin, leader of the Republican party in the House, only last month, referring to the new Congress: "Another of our purposes will be to curb the unauthorized use of power by some of the autocratic bureaucrats." And in a recent radio broadcast the influential Democratic Senator O'Mahoney of Wyoming warned that Congress is "in danger of losing its power to the bureaucrats." He singled out particularly legislation accomplished by executive order.

"The record shows the trend," he declared. "Between January 7, 1941, and April 12, 1942, the President issued 500 executive orders. They were not written in the halls of Congress on the responsibility of men chosen by the public and known to the public. They were written in private by anonymous experts. They were not subject to public hearing nor were they analyzed in public debate. They did not become known to the public until issued—and then they were effective. . . . All of them were conceived and written in private and were promulgated before the persons who must obey them had any opportunity to comment on them, much less to suggest amendments."

YOUR SHADE TREES:

TREE SELECTION

By LAWRENCE MANNING

SURPRISINGLY little thought is given by the average person to the kind of shade tree he will plant—and this in spite of the fact that the tree, once planted, will be an intimate part of his life, perhaps as long as he lives. Seldom indeed does one, recognizing an unhappy selection, cut down the tree in later life to grow another and better one, because of the time element involved. The time to give consideration to the question of the right kind of shade tree to plant is before the tree is planted.

Unfortunately, many who consider it worth their while to devote thought to the subject are not aware of the main facts upon which competent selection can be based. The usual procedure is to look about for trees that are handsome, comparing one with another, until the most pleasing one is determined. Yet what is suitable a few miles away in different soil may be utterly unsuited to your site. Some, better informed, do their looking only in their own immediate neighborhood. This has some virtues, but is easily subject to mistakes in that unsuited trees may be planted, or conversely, highly suited and more beautiful trees may be neglected.

For example, young trees on a large street may be of a kind that will eventually make majestic specimens; yet amateur planters who work by the imitation method see only the neat, small present size and plant them in narrow crowded areas which they will quickly overgrow.

The fact is, that for every planting for definite objectives, there exists a short list of suitable trees. The list may be entirely different for each different problem. Without going into details, the principal facts can be readily presented as a working guide for prospective planters.

The Shade Tree's Function

Two purposes are served by each shade tree—beauty and shade. Beauty is of course relative. Some trees are more beautiful than others—sometimes enormously so. Trees with showy flowers or fruit clusters, for example, are more attractive than mere green masses. Yet the neatness and shapeliness of the green mass must be considered. In the table herewith only trees of a generally pleasing leaf mass are entered at all.

Those with additional beauty of flower, form or fruit are specially noted.

The provision of shade must be considered in relation to the climate. Our climate is very hot in summer and shade is welcome, but winters are cold and shade then is undesirable. For this reason evergreen trees in most of America are too cold in winter to be suitable for shade trees. The same in lesser degree applies to such deciduous trees as keep their leaves nearly all winter. The Oaks, for example, have this fault which for some situations nearly overthrows all their many virtues. Good shade trees throw a cool shade during the hot months, but drop their leaves cleanly to let in plenty of warm sunshine in the cold parts of the year.

Defining the Planting Problem

The most noticeable error in selecting trees is the planting of large trees in small spaces. Yet this should be the most obvious and easily overcome error of all. The table opposite lists large trees and small. It is an approximate division only, for trees vary from twenty to over a hundred feet in height and there is no sharp dividing line between small and large.

Fully as common as error of size, is the selection of a tree that will not grow in your soil. Full consideration of planting site (its climate, moisture, drainage, soil acidity, etc.) constitutes the science of ecology. All you need to know about the kinds listed in the table is that all of them will grow in ordinary garden loam or its equivalent. Some will also withstand sandy, poor soils and are so noted.

Obviously there is no need to go to great expense to change the nature of the soil if a good tree can be selected that is able to grow well in the soil already available. And quick cheap methods of soil building usually last only a few years before the soil reverts to its natural state—whatever that was. So select if you possibly can a tree that will thrive in the soil you have.

Lastly, if you are farther north than many trees will live, you must select from a list of extra hardy trees and avoid all others. A line from Boston, through Buffalo and Chicago, to Omaha is roughly the northern limit for most of

the listed kinds. The trees that can be planted north of this line are specially marked in the table.

Note how rapidly these three considerations limit the choice of possible trees. If, for example, you are north of the hardy line and want a small tree where the soil is poor, you have automatically reduced the possible choice of kinds to just two in that of eight extra hardy kinds in the list, only three are small and of these three only two grow in poor soil: *Acer negundo* and *Betula pendula*.

This list represents your possible choices. From here on your selection must be narrowed down by considerations of greater or less value.

Vigor and Health of Trees

It is desirable to have a shade tree vigorous, fast growing, plentifully rooted so that it transplants readily and safely, and so healthy and lusty it throws off ordinary diseases and is not readily damaged by insects. On the other hand, quick growth often means a short life and it is desirable to have long-lived trees. Plentiful roots often mean garden robbers, killing or weakening nearby shrubbery and some cases even preventing the growth of grass nearby, as in the case of Beeches, Elms and Maples.

Of if the planting is to be in a street, where no shrubbery exists, even then too vigorous a root can cause trouble—as for example, the habit of willows and poplars which send roots to penetrate and destroy water-pipes and shallow drains. In addition, too quick and vigorous a growth frequently is associated with fragile, easily broken branches. This fault does not become evident until the tree is older and then, after severe storms, great branches litter the street and life and property are endangered—as well as the beauty of the tree itself.

Here, then are three things to be considered in making further eliminations of certain trees: (1) Are they root-greedy? (2) Are they short-lived? (3) Are they weak-limbed? The answers appear in the table; the application of the facts to your problem is quite simple.

Do not think that a number of unsuitable trees have been added to the list merely to add complexity! Far from it: From lists of hundreds of at-

tractive trees the forty listed have been chosen. For instance, no walnuts, hickories, chestnuts, fruit trees of any kind appear. Yet all of these are pleasant shade trees in special places—doing double duty since they provide fruit as well as beauty. But strictly as shade trees they have so serious a fault as to exclude them from any simple list: they drop a litter of nuts or fruit. In streets, this would require cleaning up and encourage undesirable boyish activity among the limbs. On lawns, it would prevent easy mowing.

In another article consideration will be given to the use of double-purpose

ties are attractive enough, the extra trouble and expense are well justified.

Again, a tree that is subject to a normal amount of insect damage can be sprayed and kept perfectly healthy without prohibitive effort. Certainly that effort will not be grudged if its beauty is much greater than any other trees suited to your planting area. As to fast growth, obviously a slow-growing tree may be well worth waiting for. So the beauty and attractiveness of the tree is part of the data upon which the final choice is to be made and we have returned back to the starting point of our discussion.

Let us consider with the use of the

comparatively free from insects. Ten of the thirteen are eliminated on this count leaving three from which he can make his choice: Gingko, Gymnocladus and Taxodium. But only one tree is desired. In the table the Taxodium alone is marked extra showy and should be planted provided the particular showiness (unusual leaf) is attractive. He may prefer either of the other two.

Another man might not mind occasional sprayings, and might want a showy tree rather than one insect free. Three trees out of the thirteen qualifying are extra showy; in addition to the Taxodium there is the Robinia, with

	USE-LIMITS						FAULTS			VIRTUES			
	Extra hardy	Poor Soil	Wet	Survives smoke	Small	Large	Root-greedy	Weak-branch	Short-lived	Easily planted	Fast-growth	Insect free	Extra showy
ACER Negundo (Box-elder)	×	×	×	×	×	×	×	×	—	×	×	—	—
A. platanoides (Norway Maple)	—	—	—	×	×	×	×	—	—	×	×	—	—
AESCULUS (Horse-chestnut)	—	—	—	×	×	—	—	—	—	—	—	—	×
ALANTHUS (Tree-of-Heaven)	—	×	—	×	×	—	×	—	×	×	×	—	—
BETULA pendula (Weeping Birch)	×	×	—	—	×	—	—	×	—	×	×	—	×
CATALPA (Catalpas)	—	×	—	×	×	—	—	×	×	×	×	—	—
CEDRELA (Cedrela)	—	×	—	×	×	—	—	—	—	×	×	×	×
CELTIS (Hackberry)	×	×	—	—	×	×	—	—	—	×	—	—	—
CERCIDIPHYLLUM (Katsura)	—	—	—	—	×	—	—	—	—	—	—	×	—
CLADASTRIS (Yellow-wood)	—	—	—	—	×	—	—	—	—	—	—	—	×
FAGUS (Beech)	—	—	—	—	×	—	×	—	—	—	—	—	×
FRAXINUS (Ash)	×	—	×	×	×	×	—	—	—	×	×	—	—
GINGKO biloba	—	—	—	×	×	×	—	—	—	—	×	×	—
GLEDITSIA (Honey-locust)	—	—	—	×	×	×	—	—	—	×	×	—	×
GYMNOCLADUS (Coffee-tree)	—	—	—	—	×	×	—	—	—	×	×	—	—
KOELREUTERIA (Goldenrain)	—	×	—	—	×	—	—	—	—	×	—	—	×
LABURNUM vossii (Goldenchain)	—	—	—	—	×	—	—	—	—	—	—	×	×
LIRIODENDRON (Tulip-poplar)	—	—	—	—	—	×	—	×	—	—	—	×	×
MAGNOLIA—(acuminata, obovata and tripetala only)	—	—	—	—	×	—	—	×	—	—	×	×	×
PHELLDENDRON (Cork-tree)	—	×	—	—	×	—	—	—	—	×	—	×	×
PLATANUS occidentalis (Sycamore)	—	—	×	—	×	—	—	—	—	—	—	×	×
P. acerifolia (Oriental Plane)	—	—	×	×	—	—	—	—	—	—	—	×	×
POPULUS (Poplar—most kinds)	×	×	—	—	—	×	×	×	×	×	×	—	—
PRUNUS serotina (Black cherry)	—	×	—	—	—	×	—	—	—	×	×	—	—
P. Serrulata (Flowering cherries)	—	—	—	—	×	—	—	—	—	×	×	—	×
PSEUDOLARIX (Goldenlarch)	—	—	—	—	×	—	—	×	—	—	—	×	×
QUERCUS palustris (Pin Oak)	—	—	×	—	—	—	—	—	—	×	×	—	—
Q. coccinea (Scarlet Oak)	—	×	—	—	×	—	—	—	—	—	—	—	—
Q. rubra (Red Oak)	—	×	×	—	×	—	—	—	—	—	—	—	—
ROBINIA (Black Locust)	—	×	—	—	×	—	—	—	—	×	×	—	×
SALIX (Willow—most kinds)	×	×	×	—	×	—	×	×	—	—	×	—	—
SOPHORA (Scholartree)	—	×	—	×	—	—	—	—	—	×	×	×	×
TAXODIUM (Bald-cypress)	—	—	×	—	—	×	—	—	—	×	×	×	×
TILIA (Linden—most kinds)	—	—	—	—	—	×	—	—	—	×	×	—	×
ULMUS campestris (English Elm)	—	—	—	×	—	×	×	—	—	×	×	—	—
U. americana (American Elm)	×	—	×	—	—	×	×	—	—	×	—	—	—
U. pumila (Siberian Elm)	×	×	—	—	—	×	×	—	—	×	×	—	—

shade trees, but there are too many special facts to consider here.

Completing Your Choice

With major faults out of the way, the positive virtues become part of the basis for a final choice: (1) Is the tree easily transplanted? (2) Is it free from insects? (3) Is it fast growing? You will note that these are positive virtues, because they are qualities that are *not* essential. A tree troublesome to transplant can nevertheless be planted with some little extra care but, in case of a failure in the first attempt, some extra expense is involved. If its other quali-

ties are attractive enough, the extra trouble and expense are well justified. There is or can be good soil, the climate is not extreme, but a large tree is wanted. In the table there are twenty such trees. But the tree in question is to be planted on a lawn near a garden. Four root-greedy trees are now excluded and sixteen other trees are left for consideration. The planting is to be permanent and the tree will overshadow a walk and part of the house, so short-lived, or weak-limbed trees must be excluded. Three more possibilities fall by the wayside, leaving thirteen on the list.

The owner decides that he wants a minimum of trouble and insists on a tree

white flowers, and the Linden (Tilia) with fragrant flowers.

Try it for yourself on your own problems, or perhaps one of the following three problems will be interesting. In each case only one tree remains after fulfilling all requirements. A different one each time!

Problem 1: Small tree for wet soil in a smoky street.

Problem 2: Large tree for wet soil in Northern smoky street.

Problem 3: Large fast-growing tree for poor soil on a northern lawn.

(Answers will be found on page 42.)

TREE TRAILS . . .

Across America in Search of the Rare and Unusual

WHEN you journey forth in search of that which might be termed unique or unusual, it quite often happens that you leave it behind in your own back yard. Or so it seems where trees are con-

cerned. For several years The American Forestry Association has been on the trail of the largest living specimen of important American trees and, at intervals, has issued a report of its discoveries.

One of these came to the attention of the editor of the Knoxville, Tennessee, *News-Sentinel*, who, being tree-minded, consulted with Dr. Stanley A. Cain of the University of Tennessee, whose interest runs to giants of the plant world.

Just what passed between these gentlemen is, of course, best known to themselves, but it seems likely that under the professional questioning of the editor the scientist came forth with the equivalent to "Say, we have larger trees than these right here in our own back yard." The "back yard" in question, of course, is the Great Smoky Mountains National Park. Shortly thereafter there appeared in the *News-Sentinel* a three-column spread, with pictures, announcing to the world that "Smokies Trees are Bigger Than Official U. S. 'Champs.'"

Armed with measurements supplied by Dr. Cain, the editor made his claim stick. In one small section of the Great Smokies—the Greenbriar region—he listed giants of six species which exceed in size the "champs" recorded with the Association. Here they are: Red oak, *Quercus borealis maxima*, with a circumference four and a half feet above the ground of twenty-one feet, six inches; cucumber tree, *Magnolia acuminata* with a circumference of eighteen feet; eastern hemlock, *Tsuga canadensis*, seventeen feet, nine inches in circumference; yellow buckeye, *Aesculus octandra*, fourteen feet, eight inches in circumference; black cherry, *Prunus serotina*, twelve feet, six inches in circumference; and silverbell, *Halesia monticola*, eleven feet, nine inches in circumference.

To Dr. Cain, who discovered and measured these giants, to the editor of the Knoxville *News-Sentinel*, who made them known to the public, and to Carlos C. Campbell, secretary of the Great Smoky Mountains Conservation Association, who has been extremely active in assisting The American Forestry Association with its Big Tree Project, we extend our thanks. Due to their combined efforts, six new tree "champs" have been crowned.

While these giants of the Smokies were being brought to light, another tree-minded citizen, H. G. Abbott, of Princeton, Maine, was grappling with the problem of why Maine, well known as the Pine Tree State, has no official state tree.

"Probably the majority of Maine citi-



Dr. Stanley A. Cain

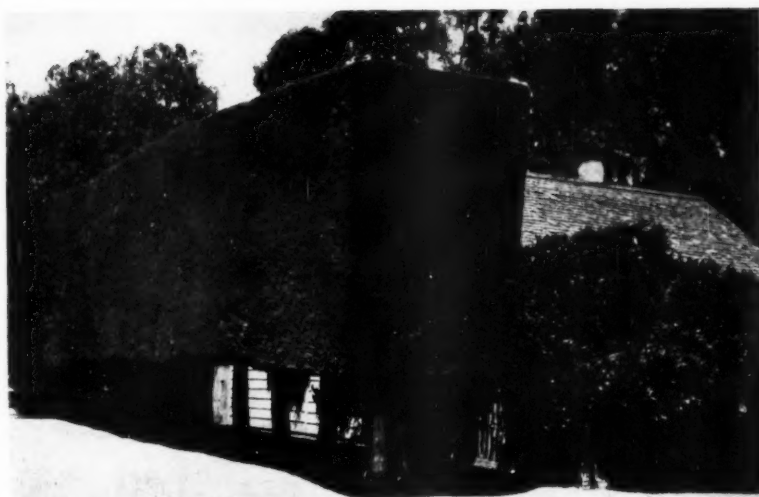
A new champion is this Great Smoky Mountains red oak

zens," he writes, "if asked to name their state tree, would reply, 'the white pine, of course.' This answer should be right, but it isn't. The tree that adorns the Maine State Seal has never been officially accepted by the citizens of Maine as their state tree. Perhaps the reason for this is that the white pine has already been honored by the acceptance of its cone and tassel as the official floral emblem of Maine.

"In 1894, ballots were published in Maine newspapers and people were urged to register their choice of one of three candidates for the Maine state flower—the pine cone, the apple blossom and the flower of goldenrod. Of these, the one which is not a true flower received the most votes, and in 1895 the cone and tassel of eastern white pine was legally adopted by the state legislature as the floral emblem of Maine. Actually, the pine cone is not a flower but a fruit, and the pine tassel is merely a cluster of fasciated leaves. To attempt to change this after forty-seven years, however, would be unwise and useless.

"But it does aid in emphasizing the fact that the pine tree is not the official state tree of Maine. Making this citizen of the forest a legal citizen of Maine is an act worthy of support. The state should, in fact, be the first to thus honor the tree to which it owes so much."

Should Maine so act, it would be the sixteenth state to officially adopt a state tree. California has named the redwood, Delaware the American holly, Georgia the southern pine, Idaho the western white pine, Illinois the bur oak, Indiana the tuliptree, or yellow poplar, Louisiana and Mississippi the magnolia, Maryland the white oak, Massachusetts the American elm, Pennsylvania the eastern hemlock, Rhode Island the maple, South Carolina the palmetto, Texas the pecan, and Utah the blue spruce.



Unique cypress row, result of fifty years of trimming

Mr. Abbott, while primarily concerned with Maine, might also ask why the citizens of the whole nation, who owe much to their tree heritage, have not officially adopted a national tree? The white pine, the American elm, the redwood, the white oak are among those qualified for this honor.

The cypress isn't, but out in San Leandro, California, according to C. Dan Youngs of that city, seven of them have joined branches—with the help of patient training and careful trimming, of course—to form a novelty in tree growth that is unique even in California.

Writes Mr. Youngs: "Nearly a half century ago, when the present city of San Leandro was but a portion of a great rancheria, a brother and sister settled along the banks of San Leandro Creek, built a small house near a row of seven cypress trees and settled down to enjoy life.

"Before long the branches of the

trees, under the force of prevailing west winds, began to beat against the house, and rather than remove the trees the owners decided to trim the branches—and keep them trimmed. This idea, assisted by Nature, has now progressed to a point where the row is not only a thing of beauty, but extremely unique.

"The owners have so trained this row of cypress that it is shaped much like a railroad boxcar, for since they started this plan of trimming, the trees have grown together in one massive oblong, higher than the cottage.

It is well, perhaps, that these pioneers built their modest home beside a row of limby cypress. Had it been black spruce, for instance, San Leandro would have been without one of its major tourist attractions. For black spruce is noted for its slender straight form and short branches—but let Artist Fader, below, and Author Collingwood, on the following page, tell its story.

TREES AND THEIR USES—No. 71—BLACK SPRUCE



BLACK SPRUCE

Picea mariana, (Miller) Britton, Sterns and Poggenberg

BY G. H. COLLINGWOOD



WHILE the form of black spruce varies according to site, its most noticeable characteristics are its slender straight trunk, irregular open conical crown, comparatively short branches, and small cones. In favored situations at the southern extremity of the range, it sometimes attains a height of one hundred feet with a trunk diameter of two or three feet, and on good sites in the north it occasionally grows to seventy feet or more with a trunk that measures ten or twelve inches in diameter. As a rule, however, it is only thirty to fifty feet tall. Toward the northern limits of its range it is reduced to a shrub with heights up to twelve feet. A moisture-loving species, it inhabits cold sphagnum bogs, springy swamps and lake shores. It may be found on sandy or rocky hillsides and uplands, but as in the case of bog-grown trees where ice remains around roots and base of trunk well into spring or early summer, and those growing on upland sites where there is insufficient moisture, the trees are stunted. It is found at elevations from one hundred to thirty-five hundred feet above sea level.

Black spruce is a slow growing tree, especially when in swampy locations. Trees in these sites will add only an inch or two to their trunk diameters in seventy-five or a hundred years. In such areas there is little competition so that it is most abundant and develops thick pure stands. It grows also on glacial drift and clay soils, but best growth occurs in well-drained alluvial soils that are constantly moist. Black spruce does not demand deep soils because the root system is shallow. It is a fairly long-lived tree, and specimens of average size are from one hundred and twenty-five to two hundred years old.

The range of black spruce is transeontinental, extending from Labrador, Newfoundland and Nova Scotia southward through New England, northern New Jersey, Pennsylvania, and along the Appalachian Mountains to northern West Virginia. In the lake states it occurs in Michigan, Wisconsin and northeastern Minnesota, and thence from Hudson Bay and southern Manitoba northwestward in a broad belt to the west coast of Alaska.

Bark on the mature trunk is a quarter to a half inch thick, dark reddish brown turning gray with age, and is broken on the surface into flaky, thin, rather closely pressed scales. Trunks of trees growing in the open are clothed to the ground with branches, the upper ones being horizontal, while the lower ones droop and turn upward at the tip. Occasionally the basal branches of isolated trees sweep the ground taking root and sending up shoots. Middle-aged trees in dense stands have their trunks clear of branches for half their height, and trees forming thick, pure stands in bogs often have only a few short branches clustered at the top of the tree.

The sharp-pointed buds of black spruce are covered with light reddish brown overlapping scales and measure an eighth to a third of an inch long. Twigs of the year are yellowish brown, covered with short reddish brown hairs later turning dark brown and becoming scaly. The four-angled, blunt-tipped needles measure a quarter to three-quarters of an inch in length and are slightly incurved above the middle. They are dark bluish green with a whitish bloom, and have rows of tiny white stomata on each of the four sides. They grow in spirals along the twig, standing out on all sides from it, and remain on the tree for from seven to ten years.

Flowers of black spruce appear in May or June, and are situated near or at the tips of the branches and measure about one-eighth of an inch in length. The staminate or pollen-bearing ones are dark red and nearly stemless, while the ovulate or seed-producing flowers are purple and are composed of rounded scales.

The clustered, drooping, grayish brown cones measuring one-half to one and a half inches in length mature in August. When the scales open the cones are nearly round. They fall entire, but remain on the trees for

The most noticeable features of black spruce are its slender straight form, comparatively short branches and small size

twenty or thirty years, the oldest being at the base of branches nearest the trunk. Scales are brittle, rounded, slightly hairy, and have notched, uneven edges. The dark brown winged seeds oblong, pointed seeds measure a half-inch in length and an eighth inch in width. Black spruce bears large seed crops only at infrequent intervals. Seeds retain their vitality for a long time. Their rate of germination is fairly high, and is best on mineral soil or humus that is constantly moist, and on wet decayed wood, needle litter, or moss. During their first year or two, seedlings require little or no direct sunlight. Older trees also are very tolerant of shade, especially on wet sites, and up to an advanced age are able to recover from suppression. Though often forming pure forests, this tree is found in mixture with larch, aspen, willow, alder, cottonwood, balsam fir, white cedar, and black ash. Black spruce, eastern larch and willow, all three of dwarf size, make the most northerly outpost of trees where their ranges draw close to the edge of the Arctic Sea in the Mackenzie Bay region.

Heavier than the wood of any other North American spruce, that of black spruce weighs about thirty-three pounds to the cubic foot when dry. It is pale buff yellow or with a reddish tinge, and has a few inconspicuous resin ducts. Because of slow growth, the annual rings are narrow and the sapwood thin. It is soft, straight-grained, not strong, and is commercially less important than the other two eastern spruces, — red spruce and white spruce, — because the tree is small and slow growing. The wood, however, has much the same properties as the others. The chief use to which black spruce is put is in the manufacture of paper pulp for which it is ideally suited owing to the long white fibres which make up the wood and which need little or no bleaching. It is used also for canoe paddles, oars, ladder rails, construction, ship building, and for many other purposes requiring a light, stiff wood. Chewing gum is made from the resin, and formerly spruce beer was made by boiling the branch tips. Today young trees are increasingly in demand for the Christmas tree market.

Other common names for black spruce are blue spruce, spruce pine, eastern spruce, bog spruce, and swamp spruce. The scientific name *Picea mariana* means Maryland spruce.

Its thin bark and resinous exudations on the trunk make black spruce susceptible to injury by fire, but this is lessened by the wet locations in which it grows. The tree is attacked by several kinds of fungi and by insects, especially the spruce budworm.

Black spruce is rarely planted as an ornamental tree because it is short-lived in cultivation. Moreover, it has an uneven, unkempt appearance owing to an accumulation of dead branches.

From 1928-1937 the combined average annual cut of the three eastern spruces in the United States was 132,600,000 board feet. There are no available figures to show the amount of standing black spruce sawtimber, but in 1930 the combined stand of red, white, and black spruces, and balsam fir in the United States was estimated at 21,533,000,000 board feet.



The grayish brown cones are clustered and drooping, and the bluish green, four-angled needles grow in spirals along the twigs



At first reddish brown, the bark turns gray with age, and is cracked into thin, closely pressed scales



Natural range of Black Spruce

"WE QUOTE" . . .

W. F. LEICESTER

*From Address before the National Lumber Manufacturers Association
at Chicago, on November 18*

THE POST-WAR PROBLEM OF WOOD

Today the lumber industry is responding to the call of war, and a great many manufacturers are accepting wholeheartedly relatively new techniques such as laminating and plywood. It would seem, therefore, that now is the time to seize quickly upon our favorable position, and make our bright vision of the future even brighter and secure by taking the following steps:

1. Let us revitalize our trade associations, especially those dealing with the refabrication of wood.

2. Let us work towards a change in our sales objective, determining to sell, as nearly as possible, a finished product rather than the raw material.

3. Let the wood industry be quick to accept new fabricating techniques. Lamination, for instance, which means gluing relatively thin stock such as one inch material into multiples to make strong structural large dimension stock, arches, girders, and beams. Glue, properly used, asks no assistance from nails or bolts. This is a type of lumber fabrication which is getting attention today. Specification men in the construction departments of the armed forces at Washington, for example, are very receptive to the subject of lamination. The most exciting problem at the moment is that of laminated boat ribs.

The other new fabricating technique, plywood, has progressed tremendously in recent years. But I venture to suggest that it is still in its infancy, and that its great growth will come after the war when synthetic resin glues become widely available, and the techniques of use are fully developed.

4. I believe that the chemical industry and the wood industry will get together in a big way when the war is over, and while much of this development will be in the field of finishes, the contribution of chemistry to the gluing, the impregnating, and the laminating of wood will create for the wood industry new and exciting sales objectives. Phenol-carbolic acid, a coal tar product, now also made synthetically, is the basis of the most durable adhesive which we now know — phenol-formaldehyde resin glue. And it has been stated by authorities that when this war is over, the United States will have fifty times the phenol production which it had at the end of the last war. Phenol resin is

now only obtainable for top-ranking war orders, but it will be abundant, and low in cost, when peace comes.

With straight line processes, we shall be impregnating veneers as they come from the log, building them into plywood panels, compressing and gluing them in one operation in a hot-plate press, and getting, straight from the press, a dimensionally stable wood construction, the surface of which is already finished and polished, proof against alcohol, and almost every hazard of use. We shall use plywood for every purpose, outdoor and indoor, and it is reasonable to hope that we will only make one grade of plywood, waterproof, which can be used anywhere, with less question as to its durability than there is about a solid one inch board.

And here let me make a plea that the wood industry take over the chemical or the plastic products which it will use before it is taken over by them. I am tired of hearing about the so-called "plastic plane" when the contribution of plastic chemicals is from 1/50 to 1/20 of the weight. If anything, it is entitled to be called a "wood-plastic plane" — but the plastic people have the promotional and publicity sense, and they have the world believing that the contribution of plastics is everything, and that wood is negligible.

5. A great many people think that all research needed by the wood industry is done by that very fine institution, the Forest Products Laboratory, at Madison, Wisconsin. Good as it is, the Laboratory or any other government-operated institution lacks that basic ingredient of the capitalistic system, the profit motive. It is that which speeds up research in private industry.

I hope that after-the-war research will be accepted by the wood industry as its responsibility, supplemented by the Forest Products Laboratory in what may be called the field of "pure" research on wood and forest products. For example, research on lignum, that elusive binder of cellulose fibres, wood plastics, and salvaging of what is now waste wood.

There are not many privately owned research laboratories in the wood industry. Unfortunately, there is only one Weyerhaeuser, and splendid as their research program seems, the substantial investment which they are now making

is not possible for many single units of the industry. So, while it seems not unreasonable to hope that some of the larger woodwork companies can and will install their own research laboratories to work on their own problems, is there not some way of widening the entire field of wood research so that all may benefit, that more problems can be solved, more inventions developed, and more research workers brought into the industry?

My suggestion—it may not be new—is the equivalent of a Mellon Institute for wood. The Mellon Institute at Pittsburgh, as we all know, is a noble building contributed by the late Andrew W. Mellon, having about one hundred laboratories with a full staff of scientists. A private industry pays from \$6,000 to \$8,000 a year for a fellowship, which buys the services of one scientist or "fellow," and perhaps a helper, and rents one of the laboratories to work on a specific problem on behalf of the sponsor. There is a central staff to provide meetings of minds, discussions of related problems.

Well, why couldn't we have a Mellon Institute? I picture an appropriate building with central dry kilns and woodworking machines available to all, and individual laboratories in which the problems of industry could be worked out.

6. I think we should consider the problem of getting new technologists, engineers, and scientists into our industry. I suggest that we might start, probably through trade association activities, to reach the youth of the nation in our schools and colleges.

But when we talk of interesting young men in wood, so that they will want to make it their life's work, let us not forget that the profit motive for them, too, is the motivating force. The business has to be profitable, so that it can afford to employ these men and pay them decent salaries.

We need them because we have a priceless heritage of wood in this country, and we want to hand it along to eager, intelligent, and studious hands. We are now caring for wood as it grows in the forest. Let us secure for the forest, for the wood industry, for ourselves and those who come after us, a bright future through cooperation and research.

HOUGHTON RETIRES AS AFA DIRECTOR

AFTER eighteen years of continuous and fruitful service, Augustus S. Houghton, of New York, retired on December 31 as a member of the Board of Directors of The American Forestry Association. His interest and sound counsel will not be lost to the Association or to



AUGUSTUS S. HOUGHTON

conservation, however, as he will continue to serve as a vice-president.

Acting on Mr. Houghton's decision to retire, the Board of Directors, meeting in Washington on November 19, expressed appreciation of his many contributions in the following resolution:

"The Directors wish to record their deep appreciation of the helpful and generous services of Augustus S. Houghton as a member of the Board during the past eighteen years. In his retirement they feel a sharp sense of personal and official loss in that his association with them has been both a personal stimulation and a great help in the conduct of Association affairs. They hope he will feel free to continue to attend meetings of the Board and give the Directors and the Association the benefit of his interest and his sound counsel."

A native of New York, Mr. Houghton entered active work for conservation in 1909 as a member of the Conservation Committee of the Camp Fire Club of America, of which he has served as chairman and is still an active member. From 1914 to 1919 he was a member of the New York State Conservation Commission. He has been an officer

and director of the American Game Association since 1918, and more recently he helped incorporate, and for a time was a trustee of the American Wildlife Institute, whose activities now include those of the American Game Association. As a former president of the Association for the Protection of the Adirondacks and as a member of the New York State Reforestation Committee he has been actively associated with the development of New York's forest policy. More recently, with winter residence in the South, he has been a member of the Florida Wildlife Federation and counsel for the South Florida Wildlife Council.

As a director of The American Forestry Association, Mr. Houghton took a leading part in securing the present headquarters building of the Association on Farragut Square in Washington. He also contributed a broad and constructive interest in the Association's efforts to maintain the high standards of the national parks.

Mr. Houghton graduated from Amherst College in 1888, was admitted to the New York Bar in 1891, after legal practice in North Carolina, and has practiced in New York since 1892.

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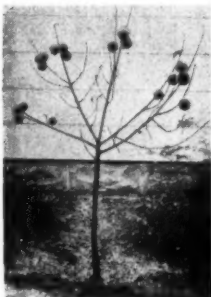
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Chinese Chestnuts have proven highly resistant to the blight which destroyed our native Chestnuts. The nut is nearly the same — sweet, though not so small. Easy culture; hardy to Boston and Chicago. Tree not as handsome as American Chestnut, but more productive.

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The tree here pictured is 4 feet high, with 18 burrs, each containing three nuts. Chestnuts begin to bear when young.



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PRUNING TREES AND SHRUBS, by Ephraim Porter Felt. Published by Orange Judd Publishing Co., New York. 111us. 237 pages. Price \$2.00.

In concise, readable language, Dr. Felt — eminent tree man — presents for the owner of a few trees or shrubs, rather than for the extensive operator, a guide to proper techniques in pruning woody plants. This book should aid the grower of trees to realize more fully the benefits of pruning, and places before him the knowledge and experience of others which may help him improve his own methods and solve many of the problems besetting the inexperienced.

WASTE OF WEALTH — ITS CONQUEST THROUGH CONSERVATION, by Herbert H. Helble and Oscar H. Reinholt. Published by C. C. Nelson Publishing Company, Appleton, Wis. 72 pages. Illustrated. Price \$.85.

The authors do not attempt to cover the broad field of social, political and economic aspects of America's natural resources or our waste or want of them, but rather seek briefly to discuss the need for understanding and appreciation of what it means to have abundant resources of forests, soil, minerals, water and animal life to harvest now and to perpetuate for posterity.

WE FOLLOW THE WESTERN TRAIL, by Ruth Wheeler. Published by the Macmillan Company, New York. 160 pages. Illustrated. Price \$2.00.

A delightful and informative account of a present-day adventurer with camera and notebook seeking the wild creatures living beyond the beaten track. Bird life is the primary interest of the author, but bears and deer, and the smaller animals—foxes, ground squirrels—as well as the coyotes and kangaroo rats of the desert are not overlooked. Ranging from the alkali flats of Death Valley to the snowbanks of the High Sierra, this book presents an informative guide to nature enthusiasts.

YOUTH IN EUROPEAN LABOR CAMPS, by Kenneth Holland. Published by the American Council on Education, Washington, D. C. 303 pages. Illustrated. Price, \$2.50.

Prepared for the American Youth Commission of the American Council on Education, this book traces the growth and present status of work camps abroad. It should be of particular value to all concerned with the social, educational, and political significance of camps in this country. Mr. Holland spent eighteen months in Europe in 1931 and 1932. He again visited and worked in European camps in the summers of 1933 and 1936.

NEW BOOKS and OTHER PUBLICATIONS

A list of Selected Books on Forestry and related fields of Conservation is available to members of The American Forestry Association on request.

COST CONTROL IN THE LOGGING INDUSTRY, by Donald M. Matthews. Published by the McGraw-Hill Book Company, New York. 374 pages. Price, \$4.00.

In this guide book of forest management the author emphasizes business objectives and their influence on technical methods. The underlying thesis is the fact that standing timber or the growing stock of a forest constitutes the chief capital investment of forest business and that successful management of this capital lies at the basis of profits. The book deals with the practical problems of management of forest property in the United States, is presented clearly and uses illustrative material in case form wherever possible.

YOUTH TELL THEIR STORY, by Howard M. Bell. Published by the American Youth Commission of the American Council on Education, Washington, D. C. 273 pages. Price \$1.50.

A forceful analysis of what young people are doing and thinking, based on personal interviews with more than 13,000 young people between the ages of sixteen and twenty-four in the State of Maryland. What are youth doing? What do they want? Where are they going? What do they think about jobs? The answers to these and other questions are presented in this volume.

IN THE FOREST OF THE GIANTS AND OTHER NATURE POEMS OF CALIFORNIA, by Edith Shirey Henning. Werzel Publishing Company, Los Angeles, Cal. 63 pages. Illustrated. Price, \$1.75.

A delightful group of poems largely inspired by a visit, many years ago, when the author spent several days among the giant trees of California, — when she first "beheld them in the unspoiled aloneness of their ancient glory."

The publications listed below must be ordered direct from the addresses as given and not through the Association.

Our American Forests, Yesterday, Today and Tomorrow, by Katherine Glover, Row, Peterson & Company, 1911 Ridge Avenue, Evanston, Ill. Price 32 cents (discount on school orders).

Silting of Reservoirs, by Henry M. Eakin, —Revised by Carl B. Brown. Soil Cons. Ser., U.S.D.A., Tech. Bull. No. 524. Supt. of Docs., Wash., D. C. Price \$1.00.

Machining and Related Characteristics of Southern Hardwoods, by E. M. Davis. For. Serv., U.S.D.A., Supt. of Docs., Wash., D. C. Price 15 cents.

Phloem necrosis—A Virus Disease of the American Elm, by Roger U. Swingle. U.S.D.A., Circ. No. 640. Supt. of Docs., Wash., D. C. Price 5 cents.

The Control of Wind Erosion on Muck Lands, by A. F. Gustafson. Cornell Extension Bull. 482. N. Y. State Coll. of Agr., Ithaca, N. Y.

Forest Tree Planting Manual for Illinois. Div. of Forestry, Dept. of Cons., Springfield, Ill.

Power in Athletics, by Glenn Clark. Macalaster Park Pub. Co., St. Paul, Minn. Price 15 cents.

Products of American Forests, by J. Alfred Hall and T. J. Mosley. For. Serv., U.S.D.A. Supt. of Docs., Wash., D. C. Price 20 cents.

British Colonial Timbers. Issued by the Colonial Forest Resources Development Department, Grand Buildings, Trafalgar Square, London, W.C. 2, England.

Report on Progress of the WPA Program, June 30, 1941. Federal Works Agency, Work Projects Administration, Wash., D. C.

The Forest Situation in Lincoln County, Montana. By S. Blair Hutchison. For. Surv. Release No. 20. Northern Rocky Mtn. For. and Range Exp. Sta., Missoula, Mont.

Our Public Works Experience, by the National Resources Planning Board. Supt. of Docs., Wash., D. C. Price 10 cents.

A Course in Modern Timber Engineering, by Howard Hansen, C. E. Southern Pine Ass'n., New Orleans, La.

Economic Management of Western White Pine Forests, by Kenneth P. Davis. For. Serv., U.S.D.A., Tech. Bull. No. 830. Supt. of Docs., Wash., D. C. Price 20 cents.

Basis for Judging Subalpine Grassland Ranges of Oregon and Washington, by G. D. Pickford, For. Serv., U.S.D.A., Cir. No. 655. U. S. Gvt. Printing Office, Wash., D. C.

Forest Grazing and Beef Cattle Production in the Coastal Plain of North Carolina, by H. H. Biswell and J. E. Foster. L. D. Bayer, Director, Agr. Expt. Sta., State Coll. Station, Raleigh, N. C.

FLASHES

An average increase of from fifteen to twenty per cent in the demand for wood for heating purposes is anticipated this winter, according to a survey just made by the U. S. Forest Service of forty-three states. Whether the increase can be met depends upon availability of labor and truck transportation.

California voters in the November election turned down a Senate Constitutional Amendment to create a new State Forestry Board. The amendment, which was defeated by 16,000 votes, would have removed the position of state forester from state civil service status.

The first great raft of Sitka spruce from the Tongass National Forest in Alaska is en route to sawmills of the Pacific Northwest. About a million board feet of high-grade logs, urgently needed in warplane production, are making this first journey south through stormy seas.

Senator McNary's amendment, S. 2629, to increase federal cooperation in forest fire control, died with the 77th Congress on December 16. The amendment, which would have increased authorization under the Clarke-McNary Act from \$2,500,000 to \$9,000,000, will be reintroduced in the 78th Congress which convenes on January 6th.

The Truman Committee investigating the national defense program on December 15, in an interim report to Congress on lumber and forest products, censured Ben Alexander, chief of the Lumber Division of the War Production Board, for "unnecessarily delaying" action on the Forest Products Service plan which would set up a \$100,000,000 agency in the Forest Service. Mr. Alexander was charged with failing to be "frank and fair with other agencies of the government" interested in the plan, and with "not making a full and complete disclosure" of differences between agencies "so that the points of difference" could be reduced to a minimum and "presented to higher government officials for determination." The plan was first submitted by the Forest Service in June and joint approval was not given until November, it was pointed out.

Incidentally, the Committee failed to commit itself as to whether or not it favored the plan.

December 22 marked the fiftieth anniversary of the Angeles National Forest in California. Due to wartime conditions, a simple ceremony was held in Pershing Square at Los Angeles, where a golden anniversary plaque of incense cedar was unveiled. The plaque will be moved to the Angeles forest, it was stated, "after Victory has been won." The forest was created by President Harrison a half century ago as the San Gabriel Timberland Preserve.

Units of the Virginia Protective Force (Military) will be issued spruce green wool uniforms for drill and combat use. The uniforms will come from stores manufactured for the Civilian Conservation Corps, now disbanded.

Wooden manhole covers are helping war booming communities solve a problem posed when the WPB banned the ordinary iron variety. First tried by Los Angeles County, California, the wood covers, built of solid timbers specially treated with a salt preservative to resist termites and decay, have proved highly successful.

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YOUR INVITATION TO MEMBERSHIP

We extend to you a cordial invitation to participate in the 1943 wartime program of The American Forestry Association adopted by the Board of Directors on November 19, 1942, which, briefly stated, includes:

1. Intensification of present educational and legislative activities to assure the best possible protection of forests from fire, the adoption of improved methods of forest practice, and the avoidance of unnecessary waste, including specifically:

a. Aggressive participation in the campaign of the Association of State Foresters to obtain an authorization under the Clarke-McNary Act of \$9,000,000 for Federal cooperation in fire control and of \$1,000,000 for Federal cooperation in the control of insects and disease.

b. Vigorous leadership in obtaining constructive State legislation to control cutting on privately owned forest lands.

2. Active promotion of research in the field of forest products, not only by the Federal Government but also by industry and educational institutions.

3. Critical and impartial appraisal of the forest situation, with particular reference to its changing status under war and post-war conditions.

4. Continued efforts to improve "American Forests" with a view to increasing its circulation and its influence.

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INDUSTRY OPPOSES FOREST SUBSIDY PLAN

Four thousand industrialists attending the War Congress of American Industry in New York early in December condemned by resolution the pending proposal by the Department of Agriculture to set up in the Forest Service a \$100,000,000 agency to be known as the "Forest Products Service." Financed by the Commodity Credit Corporation, the charter of this agency would enable it to engage in activities designed to stimulate and supplement the production of lumber and wood necessary to meet war requirements.

The New York resolution, as approved by representatives of every field of American industry, follows:

"The government should not compete directly with private industry and private labor, nor should it subsidize any private producers in competition with other private industry.

"The U. S. Forest Service, before a committee of the U. S. Senate on November 25, stated in a public hearing that it proposed to the War Production Board, and that the Board has assented

to, a program to subsidize production of lumber, pulpwood and other forest products and to subsidize competitors with the forest industries, in order to aid the war effort. This proposal will not only fail to relieve the present shortage of certain forest products, but would reduce the output. The current shortage is caused not by lack of production facilities but principally by lack of manpower.

"It has also proposed a program of federal regulation of timber cutting and utilization as a war production measure. This plan in our opinion is an attempt to foist upon the country, under authority granted for other purposes, an unsound plan for extending governmental control over private enterprise and private industry.

"We are unalterably opposed to the policy of putting the government in competition with private industry; we are opposed to allowing instrumentalities, subdivisions or departments of the government to compete with private industry whether the competition be direct or subsidized."

FORESTRY A CRITICAL OCCUPATION

The War Manpower Commission has certified forestry, logging and lumbering as activities necessary to war production.

In a bulletin issued to local boards of the Selective Service System throughout the country, the following activities are listed as essential: "Timber tracts, logging camps, sawmills, and veneer, lath, shingle, cooperage-stock, planing and plywood mills, raising of tung-oil trees; fire prevention, pest control, forest nurseries and reforestation services; gathering of gums and barks for the manufacture of naval stores and medicinal purposes."

A list of occupations in forestry, logging and lumbering activity termed critical was supplied each local board. "It is the purpose of this list," said General Lewis B. Hershey, director of the Selective Service System, "to set forth the important occupations which must be filled by persons capable of performing the duties involved, in order that the activity may maintain efficient production. This list is confined to those occupations which require six months or more of training and preparation."

In classifying registrants employed in these activities, General Hershey said, consideration should be given to the following: (1) the training, qualification, or skill required for the proper dis-

charge of the duties involved in his occupation; (2) the training, qualification, or skill of the registrant to engage in his occupation; and (3) the availability of persons with his qualifications or skill, or who can be trained to his qualification, to replace the registrant and the time in which such replacement can be made.

The list includes foresters, nurserymen, fire marshals, timber cruisers and tree markers; tung nut and gum turpentine farmers; woods and mill foremen, high climbers, log scalers, riggers, engineers, surveyors, inspectors, traffic and production managers, yardmasters, truck and tractor mechanics, cooks, to mention a few. In all, sixty-seven forestry, logging and lumbering occupations are listed as critical.

ANSWERS TO PROBLEMS ON PAGE 33

1. Acer Negundo
2. Fraxinus (Ash)
3. Poplar — (Celtis is much better but is not fast-growing. Ulmus pumila is root-greedy on lawns—poplar, though root-greedy, does not kill out grass, only pipes and sewers.)

NUTS—A GROWING RESOURCE

(Continued from page 10)

In the Southwest and on the Pacific Coast there are several native species of black walnut which produce edible nuts. All, however, are secondary in value to the eastern walnut. These western nuts have thinner shells than do the eastern walnut and the kernels are less distinctly flavored. Nevertheless, the Hinds walnut, which is also known as the Northern California black, is marketed with considerable profit to western farmers.

The West also has its nuts from the pinon pine, a slow-growing tree of the dry, bleak and arid high country of Arizona, New Mexico and southern Colorado. Most of these are gathered by Indians and Mexicans on expeditions that often keep them in the mountains for more than a month. Hundreds of tons of pinon nuts are thus brought to the market—and they are mighty good.

With its wealth of native nuts, of which only the pecan has been efficiently harvested and marketed, and with its rapid strides in growing exotics such as Persian walnuts, almonds and filberts, America seems well on its way to nut self sufficiency. From its wild groves and carefully laid out orchards, from its forests and woodlots, is coming an increasing number of delicious nuts rich in food value, eventually, perhaps, in sufficient quantity and variety to meet the taste and needs of much of its population.

Because they are products of the tropics, such nut aristocrats as cashews, Brazilnuts and coconuts must continue to be imported. The favored cashew nut originally grew wild in the West Indies and in Brazil, but was introduced with such success in Asia that most of the world's supply now comes from southern India.

The cashew belongs to the same family as poison sumac and ivy. Its kidney-shaped kernel is enclosed in two shells, and the space between them is filled with an acrid black juice. A drop of this on the hand will cause painful swelling and burning like aggravated poison ivy. Heat destroys this poison and smart cashew gatherers burn the nuts in a shallow pan until the poisonous liquid is ejected and consumed by the hot flame.

The Brazilnut also must be brought from distant shores, and the story of its journey from the interior Amazon basin is one to capture the imagination. To gather the nuts, natives paddle their canoes up streams full of rapids and cannibal fish. From here they hack their way through dangerous, steamy jungles until they reach higher ground and the Brazilnut trees, some of which tower 150 feet above the surrounding

jungle growth.

The nuts—fourteen to twenty-four of them—grow in tiers, one above another, in hard, round cases, or containers, weighing up to six pounds. Chopping these open with machetes, the natives carry the nuts in baskets to huts by the streams where they are washed and stored. An energetic worker may collect and open as many as 800 of these nut containers in a day, which may yield up to 200 pounds of Brazilnuts. Eventually the nuts are loaded in canoes or launches and taken to the nearest river steamer that carries them to a point of export.

Then there is the coconut, ten billion of which are gathered in the tropics every year. Without doubt, this is the most useful of all nuts to man, supplying him with practically everything but clothes. Thirsty, he can drink the refreshing juice or he can eat the jelly which lines the unripe shell. Natives build their huts of its fibre and burn coconut oil for light. Mixed with resin, the oil is used to calk their boats.

Civilization puts the nut to work in other ways. Shredded coconut is used in cake icings and confectionary. "Milk" from the nut dilutes cream. Oil from copra is an important ingredient of margarine, and makes marine soap lather in sea water. Coir, fibre from the husk surrounding the nut, stuffs upholstery and saddles, and is woven into doormats, cables and sailcloth. There are many other uses—in fact, the service of the coconut to mankind is a story in itself.

These—cashew, Brazilnut and coconut—are among the better known imports that cannot profitably be grown in this country. Until the sea lanes and airways are freed for the commerce of peace, few will be available. But there are home-grown nuts to take their place. Once again Americans can be thankful for their great tree heritage.



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GIRL SCOUTS HELP KEEP AMERICA GREEN

By ANNE L. NEW

When President Roosevelt rides through his Hyde Park estate he sets an example to the smokers of the nation by carrying his cigarettes and matches in a little red "fag bag" made for him by Girl Scout Betty Lou Horn of Los Angeles, California. The fag bag serves as a timely reminder of the danger of

Most fag bags, however, are not marked with their possessor's initials. Instead, there is a sticker showing a saboteur striking a match in the forest. The sticker is a reminder that "Careless Matches Aid the Axis." Also, each bag has a drawstring that makes the smoker pause and think before pulling out a cigarette. Psychologists to whom the idea was submitted before it received a try-out in the Angeles National Forest of California, agreed that this warning came at just the right moment to break up the habit pattern of automatic smokers.

Dr. Robert A. Millikan, Nobel Prize winner and head of the California Institute of Technology, approved the fag bags. "The use of fag bags as a means of reducing forest fire hazard from careless smokers seems to be not only ingenious but psychologically sound," he said.

After the success of the fag bags in California, the "Keep Oregon Green"

and "Keep Washington Green" associations asked the Girl Scouts to make 100,000 fag bags for the Pacific Northwest. The Scouts delivered the goods.

Meanwhile the San Francisco office of the Forest Service suggested that the fag bags be made a nationwide and year-round Scout project. Betty Lou's fag bag was presented to the President on behalf of the 700,000 Girl Scouts in the United States just as the national plan was launched.

Since July, the bright red bags have been popping up all over the country.

Milwaukee's Troop 257 presented the regional office of the Forest Service with its "first ammunition for the Wartime Fire Prevention Campaign," thereby opening the drive for Michigan, Wisconsin and Minnesota. The girls had collected flour and salt bags, dyed their material red, made it into fag bags, and pasted on the stickers.

Girls from Troop 87 in Baltimore gave out fag bags at the Timonium State Fair for a booth erected and sponsored by the Forest Service. On Labor Day, Girl Scouts in the Northeastern states joined members of the D. A. R. in standing at entrances of wooded areas and delivering fag bags and leaflets describing the danger of forest fires.

In Rochester, New York, Troop 34, sponsored by the Catholic Women's Club, received the first consignment of stickers for their bags and set the pace for other city troops. The bags are shipped to Philadelphia for distribution. Elizabeth, New Jersey, Scouts presented their bags to Martin P. O'Connor of the Union County Park Commission, who said he would place them at riding stables operated in the Watchung Reservation. The miles of bridle trails in the reservation are flanked by leaves, dry grass and underbrush which create a serious fire hazard. Elizabeth girls are pledged to supply fag bags to help protect this resource.

In October, Denver, Colorado Scouts presented a large number of bags to C. N. Feast, director of the Colorado Game and Fish Department. The bags are to be distributed to hunters through sporting goods stores and will be given out at the entrances to national forests. Fag bag making will be one of the important service projects of the New Orleans Girl Scouts this fall.

For mothers, sisters, aunts and friends who want to share in the good work, the Girl Scouts hold fag bag parties where flour, sugar and salt sacks that have been collected are sorted as to size, ripped open, cut to fit the simple fag bag pattern, sewed up, dyed, pressed, and equipped with sticker and drawstring.

The Scouts say that a bag holding two pounds of sugar or salt will make two fag bags; that a five-pounder will make four, a ten-pounder, six; a twenty-four pound flour sack will provide material for twelve fag bags.

In communities where fag bags have been made an official troop project, housewives are urged not to throw away old sacks but to contribute them to their local Girl Scout headquarters. Forest conservation can begin in the kitchen of every home if women will follow the advice that was attached to the original fag bags and "Think Protection—Talk Protection—Act Protection."



Girl Scouts are Making Thousands of Fag Bags, Designed to Decrease Smoker Fires

forest fires, and Betty Lou was selected to make the presidential bag because she had made more fag bags than any other girl in her part of the country. For more than a year the Girl Scouts of the Pacific Coast had been cooperating with the United States Forest Service by making small red muslin sacks which were given to smokers entering the national forests.

The President's bag, however, was very special. It was made of China silk and the initials F. D. R. were embroidered on it in gold.

1943 WARTIME PROGRAM

(Continued from page 11)

"2. Active promotion of research in the field of forest products, not only by the Federal Government but also by industry and educational institutions. The development of new and improved products from wood and its derivatives, and greater efficiency in wood utilization, are essential in the prosecution of the war and as a basis for fuller and more profitable use of forest lands in our post-war economy. Adequate training of men for service as investigators, technicians, and executives in the field of wood technology is also indispensable and should be fostered by the Association.

"3. Critical and impartial appraisal of the forest situation, with particular reference to its changing status under war and post-war conditions. Progress toward enabling forests, forest products, and forest services to make their maximum contribution to the economic and social life of the nation is hampered not only by traditional convictions, philosophies, and policies, by internal dissensions and distrusts, but by lack of accurate knowledge as to present conditions and future needs in a war-torn world. What, for example, is the effect of war demands that must be met on current forest practices and on the perpetuation of our forest resources? What are the accomplishments and costs of forest management (or its lack) by various private and public agencies in different parts of the country? What effect will the radical changes in wood utilization that are now taking place have on forest policies and practices? What is likely to be the future relative importance of commercial and 'intangible' forest values, and how will this relationship affect problems of ownership and management? What effect will the war have on international trade in forest products, and how will this in turn affect policies in this country?

"These are but a few samples of the questions that are already pressing for an answer and that will become increasingly urgent in the later stages of the war and in the post-war era of reconstruction. The Association can render outstanding service by undertaking a thorough study of such problems as

these, with a view to making available to the American people the essential facts on which any sound forest policy must be based. The project will call for the raising of a substantial special fund, but its value is so obvious that financial support from interested foundations, organizations, industries, and individuals might be available and would certainly be worth seeking.

"4. Continued efforts to improve AMERICAN FORESTS with a view to increasing its circulation and its influence. Possible ways of doing this include more adequate covering in attractive form of the wide field indicated in the first paragraphs of this report, and the rendering of greater and more specific service to forest owners. The magazine constitutes one of the Association's most effective means of exercising leadership and no effort should be spared to make it the best in its field."

Plans to carry out this war-time program effectively are now being developed by the Board's Finance Committee, to be presented at the next meeting of the directors early in January.

The recent action of the War Manpower Commission in classifying forestry, lumbering and logging as essential war activities was discussed by the Board. It was brought out that in taking this step the commission made no provision to maintain a flow of trained men for these activities, and that unless this is done enrollment at forestry schools, already greatly reduced, will be practically eliminated.

In order to meet this situation and at the same time avoid a drastic shortage of trained men to deal with the post-war forest problem, the Board of Directors, by resolution, urged "that the War Manpower Commission and the Selective Service System recognize professional and semi-professional training in forestry, lumbering and wood technology as an essential war activity for which occupational deferment should be granted, and that schools of forestry offer accelerated programs in these fields under which men can be prepared to contribute effectively to the war effort in much less than the time normally required for full professional training."

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PLANTATION—MODERN STYLE

(Continued from page 29)

from the "Colonel's son." Mr. Rutledge likes to tell of the time Old Gabe, maneuvering for a loan, said he had a pig somewhere on the Santee delta (16,000 acres) and, if Cap'n Arch would let him have two dollars, he would let him have the pig as soon as he caught it. Gabe got the two dollars.

When the heavy work of the renovation was over, Mr. Rutledge was able



An interesting corner in the old hall, showing the beautiful wide original boards

to place some of his workers in new occupations. He kept in constant touch with those whom he could not place immediately, so that the whole neighborhood soon came to look upon him as its personal intermediary. Louis was a good carpenter; Sam was a handy man with a hoe; Peter knew about handling logs. When anyone needed a man, Mr. Rutledge could always refer him to the right one.

Archibald Rutledge insists that the benefits are reciprocated. He wins the confidence and goodwill of a people in whom he is intensely interested and gets a chance to observe their lives. Many of his most heart warming stories have been about negroes. The inspiration may come from Jake's conversation during a ride given him from the store to his home, or from the experiences of a deer hunt or a fishing trip. Jake and his brothers do the driving for the hunters and get meat for their families.

Writing in the *Saturday Evening Post* shortly after his return, author Rutledge

told of the relationship that was developing between himself and his negro helpers. "In the old kitchen I had years ago installed Prince Alston and his wife as my caretakers. But year by year they have taken in friends and relatives, the orphans and illegitimates of the plantation. Now there are sixteen negroes in that one building. They are happy. They pool their resources. They sing at their work. They represent the coming true of many a socialistic and communistic dream. I have never inquired especially into their antecedents. I only know that they were unfortunate, and that they have found a home; and I know also that, if I call, they come joyously pouring from doors and windows. . . . The experience of recent months has taught me that what the negro wants is not pity, or equal rights, or even charity. It is a chance to work."

Hampton's restoration has enhanced the natural beauty of its setting and brought about a community spirit among the natives that exists nowhere else in the vicinity. Hampton is a living, growing and producing plantation that will share the fortunes and misfor-



Some of the negroes who have been helped by the plantation plan come to call

tunes of the Carolina Low Country. Setting out to solve his own problems, Archibald Rutledge with little more than his far-reaching personality did much to solve those of his neighbors.

EGRET LAND

(Continued from page 21)

display of nuptial decorations was a most unusual sight. Possibly the reason for the bird's indifference to our presence, was due to the fact that the rookery was situated only a few hundred yards from a farmhouse and a highway, and that many visitors had observed the birds during the period of years the colony had been utilized by the egrets.

When two of the birds disagreed about territorial rights or other matters, there would be a ruffling of feathers and erection of plumes.

At various times we noted the plumes draped around the body and legs of a perching egret, as if used as a shawl. This shower of snowy white was displayed so plainly that it was possible to note the differences in length of the plumes of various birds. Much preening of feathers was going on and occasionally it was possible to watch the cleaning of the aigrettes. This was done by drawing the plumes through the bill, one by one—a procedure seldom wit-

nessed elsewhere. During the nest building period we made frequent visits to the shore opposite the rookery. No attempts were made to enter the rookery after the first brief inspection trip soon after the birds started to occupy the island for too much disturbance at this period might have proved disastrous for later photographic efforts. When there are young in the nest it is much easier to secure pictures in such a colony.

Even though a wildlife photographer is always interested in securing good shots, it is not always advisable to rush matters. In this case there was so much to see of the life and activities of the beautiful birds in this rookery, that it was time well spent just watching from the shore. Never before had we found such an opportunity to witness the home life of the egrets at close range without disturbing the nesting birds, and—needless to say—we made the most of our opportunity.

FLAMBEAU

(Continued from page 14)

stained corpses are drawn up on shore at the mill; all are in perfect condition, and some have great value, for no such pine comes out of the woods today. Post and pole cutters strip the swamps of white cedar; the deer follow them around and strip the felled tops of foliage.

So complete are all these scavengings on private lands that when the cottager builds a log cabin, he uses imitation logs sawed out of slabpiles in Idaho or Oregon, and hauled to the Wisconsin woods in a freight-car. The proverbial coals to Newcastle seem a mild irony compared with this.

On the state lands, which, as already pointed out, constitute sixty-three per cent of the Flambeau forest, another story prevails. Perhaps a tenth of these lands are covered with virgin timber, including one solid block of 3,800 acres held by the State Land Commission—one of the largest blocks left in the state. The rest consists of cutover sections on many of which the company was induced to leave an uncut strip along the river as a condition of later purchases by the state. By a series of purchases the state has gradually consolidated its riverbank holdings. All that the Flambeau Forest now needs is the completion of these consolidations and the permanent dedication of the riverbanks to canoe-trip recreation.

The cottage and resort interests can hardly complain of their proposed exclusion from the banks of the Flambeau, for cottages and resorts have already

preempted all the lakes and all the other rivers of the state.

The nearest wild canoe-country dedicated to be kept as wilderness is in the Superior National Forest in Minnesota. The Superior Forest has many fine lakes but it has no rivers comparable to the Flambeau; it is covered with pine, not hardwood, forest. Moreover, it is too far away to be readily reached by impetuous Wisconsin youths who, like the two boys on the Flambeau, feel the urge to paddle their own, to prove that they can stand the test of complete freedom.

* * *

Wisconsin is at this moment experiencing a political cat-and-dog fight over a number of conservation issues; one of them is the Flambeau State Forest. Political controversy is supposed to uncover the facts, "so the people may judge." The controversy in this case has uncovered everything but the facts. It deals *ad infinitum* with complex motives, methods, ways-and-means, but never with simple ends. The people have not been told the simple, unambiguous, inescapable fact that the Flambeau is Wisconsin's last chance to preserve a natural river; that the Flambeau State Forest contains the last sector of the river still in semi-wild condition; that the acquisition of the Forest is already two-thirds completed; that it is now or never, and here or nowhere, that Wisconsin may preserve a sample northwoods river, and the life that goes with it.

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CONSERVATION WAR FRONT

(Continued from page 30)

"Last spring," he said, "we stimulated a new drive to reinforce the old system of cooperative effort which has long been characteristic of the forest fire organization in the region. This consisted of recruiting new cooperators, of drawing up agreements with agencies who controlled existing sources of manpower, of increasing the emphasis on training and the importance of fire protection as a wartime activity. Results were gratifying. Never before have local people responded more promptly or more generously on fires in their locality. The Forest Fire Fighters Service (sponsored by the Office of Civilian Defense) will be utilized to extend this kind of action among new citizens' groups in 1943."

This local cooperation operates best, said Mr. Peck, in preventing fires and holding a large percentage to small areas. "Unfortunately, it cannot go far toward supplying the manpower needed on large fires—manpower now scarcer than contemplated last year. Particularly have we felt the loss of experienced men who have been drawn into military service or war industry."

Former CCC equipment retained for fire control was invaluable during the 1942 fire season, he declared. "We have largely depended in previous years upon private transportation for getting co-operators onto small fires. In many cases the past summer former CCC trucks were the only transportation available. This situation will be greatly aggravated this year, both by gasoline rationing and by scarcity of tires, and the success of our efforts will depend to a considerable degree on retaining this equipment in service."

"Fortunately, a fairly good stock of standard hand tools and miscellaneous fire equipment was on hand prior to restrictions on purchases and no serious handicaps to effective control of fires have developed from this source, though there has been much difficulty in purchasing for cooperating protection agencies. Little progress is possible now in acquiring new and more efficient heavy equipment such as fire tank trucks and bulldozers, which could contribute much at this time by substituting for manpower. Radio equipment requisitioned a year ago has not yet been delivered and the region is unable to utilize radio facilities to the degree needed to attain full flexibility in our fire organizations. There seems little prospect of improving our priority situation in this respect for the season of 1943."

WHO'S WHO Among the Authors in this Issue

ALDO LEOPOLD (*Flambeau*) is outstanding in the fields of conservation and wildlife management. A Yale forester, he has held several important posts in federal forest administration and has taken a leading part in developing the wildlife resource in America.

WILLOUGHBY FILER (*Nuts—A Growing American Resource*), a William and Mary graduate, was for four years on the staff of the *National Geographic* in Washington doing educational publicity. Travel is her hobby, and she's done lots of it, meanwhile writing feature stories. She is now publicity director for the New England Museum of Natural History, at Boston.

OWEN BALDWIN (*An Old New England Medicine Chest*) of Massachusetts, an M.I.T. man, class of '23, long cherished a desire to write. It was not, however, until after he had spent a couple of years in Mexico and Central America, that he abandoned business entirely and settled down to free-lance. From a New England farmhouse two hundred years old, nestling on a hillside, and with tall jack-pines for neighbors, he sends out his delightful news and magazine stories.



Owen Baldwin

E. R. YARHAM (*Britain's Ancient Forests*), a Londoner, is an enthusiastic wildlifer and conservationist and has lectured on these subjects for years. Mr. Yarham is a distinguished writer, and his work has appeared in the leading publications of Britain. He lives in the country, near Norwich.

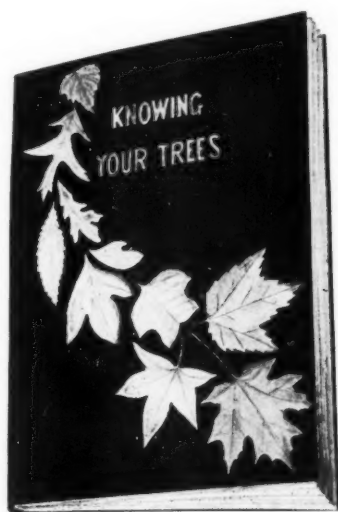
JOHN M. LOFTON (*Plantation—Modern Style*) is a South Carolinian and a journalist. His chief interests are in wildlife and photography in the Carolina Low Country, and he writes with understanding feeling of the region.

HUGO SCHRODER (*Home Life In Egret Land*) is an Iowan and a professional wildlife photographer. From this he branched into writing on natural history subjects and his work has appeared in countless publications both in this country and abroad.

THE COVER—

Blizzard on Mount Hood, Oregon. Photograph by Irving B. Lincoln.

"Ring out, wild bells, to the wild sky,
The flying cloud, the frosty light . . .
The year is dying in the night
Ring out, wild bells, and let him die"



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KNOWING YOUR TREES, by G. H. COLLINGWOOD.

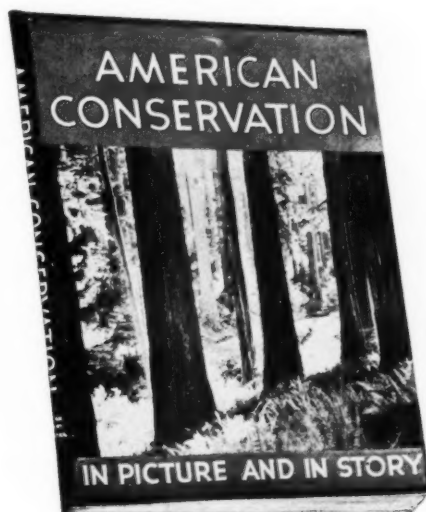
Do you know your trees? If you don't, don't you think you should, and don't you wish you did? You can learn to know not only their general form and characteristics, but also many of the more intimate details of their private lives in this enlarged and revised book.

This volume is not a popularized version of a scientific subject. It is not, because it contains practically all of the salient details which anyone—even a trained botanist—might wish it to have. This volume serves a need by striking a mean. It serves a need because it helps one gain that knowledge of trees and their characteristics which is the aim or desire of so many persons, young and old, today. It strikes a mean because it cautiously tempers the botanist's technical terms and descriptions with a consideration for the layman's requirements of a simpler, clearer and more attractive presentation. Here one finds an amazing amount of detail packed within the two pages allotted to each species of tree.

One can easily discover for each tree included a description of the physical qualities and the nature of a tree, usually in both winter and summer the real key to its identification; a statement on the type of soil and environment it prefers, and a map showing the geographical region in which the tree has its *natural* habitat; an outline of the particular qualities of the tree which make it of economic importance; a statement of the diseases common to the tree and their characteristics; and any other particularly important and specific data which may be pertinent. If scientific names disturb you, there is a very helpful translation and explanation of each one.

A book review, if it does nothing else, should tell a reader whether the volume in question is worth owning or just worth reading. This one is worth owning, permanently.

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"No other job has ever been better done than the development of the American continent by the American people. Their toil and sweat and brains are what have made this the greatest country on earth." This quotation is all too familiar in our history texts. It is easily said and believed. Yet, if the same American people had landed on the coasts of a new Norway or a new Greece, rather than on the coasts of the New World, would they have created "the greatest country on earth?" The answer is no, and serves to deaden such praise of the American people.

What is it that gave this country its rapid growth and tremendous wealth? It is the physical site—the land. It is what exists under, on and above the surface of the earth. It is the organic natural resources. America's riches were here before we came, and we have merely used them. We have mined not only our coal, but our soil as well. We have cropped not only our corn, but our forest resources. Finally the land has cried out and man has been forced to recognize its vital place in permanent production. We are just beginning to learn the value of saving the land. This is the beginning of American conservation.

The only way the people can be made to start conserving our natural resources is to educate them into it. This volume represents one of the many necessary attempts—through clever word and striking, often tragic, pictures—to do just that. It shows us the time required to create our corn belt and great plains soils, our giant Fir and Sequoia—in short the wealth that is America. It shows us with what rapid pace this master work of time can be destroyed by man—or saved, if he will only use it as he should—conservatively. This book shows how we can and are beginning to conserve what is our priceless heritage—our land.

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